

GenCore version 5.1.6
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OM nucleic - nucleic search, using bw model

Run on: October 30, 2004, 16:20:47 ; Search time 1426 Seconds
(without alignments)
729.575 Million cell updates/sec

Title: US-09-802-376-1

Perfect score: 22

Sequence: 1 TGACGTGACGTCGAGATGA 22

Scoring table: IDENTITY NUC
Gapop 10.0, Gapext 1.0

Searched: 4526729 seqs, 23644849745 residues

Total number of hits satisfying chosen parameters: 9053458

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%

Maximum Match 100%
Listing first 45 summaries

Database :

GenEmbl: *
1: gb_ba: *
2: gb_hcg: *
3: gb_in: *
4: gb_cm: *
5: gb_ov: *
6: gb_pat: *
7: gb_ph: *
8: gb_pl: *
9: gb_pr: *
10: gb_ro: *
11: gb_rsf: *
12: gb_sy: *
13: gb_un: *
14: gb_vl: *

Pred. No. is the number of results predicted by chance to have a
score greater than or equal to the score of the result being printed,
and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	ID	Description
1	22	100.0	22	6	BD182369 Anti-tumo
2	22	100.0	22	6	BD185615 Anti-tumo
3	22	100.0	22	6	BD190435 Microemul
4	22	100.0	22	6	BD228690 Methods a
5	22	100.0	22	6	BD233617 Immunosci
6	22	100.0	22	6	BD251283 Enhanceme
7	22	100.0	22	6	BD272057 Use of st
8	22	100.0	22	6	AR268334 Sequence
9	22	100.0	22	6	AR287741 Sequence
10	22	100.0	22	6	AR287743 Sequence
11	22	100.0	22	6	AR308057 Sequence
12	22	100.0	22	6	AR352573 Sequence
13	22	100.0	22	6	AR383158 Sequence
14	22	100.0	22	6	AR392162 Sequence
15	22	100.0	22	6	AX036945 Sequence
16	22	100.0	22	6	AX046993 Sequence
17	22	100.0	22	6	AX083675 Sequence
18	22	100.0	22	6	AX135650 Sequence
19	22	100.0	22	6	AX148636 Sequence

20	22	100.0	22	6	AX250701 Sequence
21	22	100.0	22	6	AX252291 Sequence
22	22	100.0	22	6	AX252509 Sequence
23	22	100.0	22	6	AX252520 Sequence
24	22	100.0	22	6	AX252934 Sequence
25	22	100.0	22	6	AX253113 Sequence
26	22	100.0	22	6	AX253123 Sequence
27	22	100.0	22	6	AX468499 Sequence
28	22	100.0	22	6	AX592312 Sequence
29	22	100.0	22	6	AX592350 Sequence
30	22	100.0	22	6	AX592369 Sequence
31	22	100.0	22	6	AX720306 Sequence
32	22	100.0	22	6	BD009235 Immunosc1
33	21.2	96.4	22	6	AX250707 Sequence
34	21	95.5	22	6	BD233630 Immunosc1
35	21	95.5	22	6	AR352586 Sequence
36	21	95.5	22	6	AX083681 Sequence
37	21	95.5	22	6	AX148642 Sequence
38	21	95.5	22	6	AX252297 Sequence
39	21	95.5	22	6	AX252515 Sequence
40	21	95.5	22	6	AX252526 Sequence
41	21	95.5	22	6	AX252940 Sequence
42	21	95.5	22	6	AX253119 Sequence
43	21	95.5	22	6	AX253129 Sequence
44	21	95.5	22	6	AX592341 Sequence
45	21	95.5	22	6	AX592347 Sequence

ALIGNMENTS

RESULT 1
BD182369
LOCUS Anti-tumor antigens or their epitopes against HTLV-1 tumor.
DEFINITION BD182369.1 GI:30793287
ACCESSION BD182369
VERSION WO 02090981-A/1.
KEYWORDS synthetic construct
SOURCE synthetic construct
ORGANISM artificial sequence.
REFERENCE 1 (bases 1 to 22)
AUTHORS Hanabuchi, S., Ohashi, T. and Kannagi, M.
TITLE Anti-tumor antigens or their epitopes against HTLV-1 tumor
JOURNAL Patent: WO 02090981-A 1 14-NOV-2002;
JAPAN SCIENCE AND TECHNOLOGY CORP, SHINO HANABUCHI, TAKASHI OHASHI,
MARI KANNAGI
COMMENT OS Artificial Sequence
PN WO 02090981-A/1
PD 14-NOV-2002
PF 02-MAY-2002 WO 2002JP004406
PR 08-MAY-2001 JP 01P 137526
PI SHINO HANABUCHI, TAKASHI OHASHI, MARI KANNAGI
PC GOIN33/50, GOIN33/15, A6IK39/00
CC Description of Artificial Sequence: ISS-ODN
FH Key Location/Qualifiers
FT source 1..22 /organism='Artificial Sequence'.
FEATURES
source location/Qualifiers
1..22 /organism='synthetic construct'
/mol_type='genomic DNA'
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Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
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DB 1 TGACGTGACGTCGAGATGA 22

RESULT 2
BD185615 22 bp DNA linear PAT 17-JUN-2003
LOCUS Anti-tumor antigens or their epitopes against HTLV-I tumor.
DEFINITION
ACCESSION BD185615
VERSION BD185615.1 GI:31877815
KEYWORDS JP 2002372532-A/1.
SOURCE synthetic construct
ORGANISM synthetic construct
artificial sequences.
REFERENCE 1 (bases 1 to 22)
AUTHORS Hanabuchi,S., Ohashi,T. and Kannagi,M.
TITLE Anti-tumor antigens or their epitopes against HTLV-I tumor
JOURNAL Patent: JP 2002372532-A 1 26-DEC-2002;
JAPAN SCIENCE AND TECHNOLOGY CORP
COMMENT OS Artificial Sequence
PN JP 2002372532-A/1
PD 26-DEC-2002
PF 08-MAY-2001 JP 2001137526
PI SHINO HANABUCHI,TAKASHI OHASHI,MARI KANNAGI
PC G01N33/50,A61K39/00,A61P35/02,A61P37/04,
PC C07K7/06,
PC C12N5/06,C12Q1/02,G01N33/00,G01N33/15,G01N33/53,G01N33/53, PC
G01N33/566,
PC G01N33/574
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RESULT 3
BD190435 22 bp DNA linear PAT 17-JUL-2003
LOCUS Microemulsions with Adsorbed Macromolecules and Microparticles.
DEFINITION
ACCESSION BD190435
VERSION BD190435.1 GI:33000174
KEYWORDS JP 2002537102-A/19.
SOURCE synthetic construct
ORGANISM synthetic construct
artificial sequences.
REFERENCE 1 (bases 1 to 22)
AUTHORS Barackman,V., Simph,M., Ugozoli,M., Kazazu,J., Donnelly,J.,
Ott,G.S. and Ohagan,D.
TITLE Microemulsions with Adsorbed Macromolecules and Microparticles
JOURNAL Patent: JP 2002537102-A 19 05-NOV-2002;
Chiron Corporation
COMMENT OS Artificial Sequence
PN JP 2002537102-A/19
PD 05-NOV-2002
PF 09-FEB-2000 JP 2000600618
PR 29-JUL-1999 US 60/163391,28-OCT-1999 US 60/161997, PR
26-FEB-1999 US 60/121858
PI John Barackman,manmohan simph,mildred ugozoli,jina kazazu,john
PI donnelly,
PI gary s ott,derek ohagan
CC Oligonucleotide

FEATURES FH Key Location/Qualifiers.
source Location/Qualifiers
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QY 1 TGACTGTGAACGTTGAGATGA 22
1 ||||||||||||||||||
1 TGACTGTGAACGTTGAGATGA 22

RESULT 4
BD228690 22 bp DNA linear PAT 17-JUL-2003
LOCUS Methods and adjuvants for stimulating mucosal immunity.
DEFINITION
ACCESSION BD228690
VERSION BD228690.1 GI:33038460
KEYWORDS JP 2002526425-A/19.
SOURCE synthetic construct
ORGANISM synthetic construct
artificial sequences.
REFERENCE 1 (bases 1 to 22)
AUTHORS Raz,E., Horner,A.A. and Carson,D.A.
TITLE Methods and adjuvants for stimulating mucosal immunity
JOURNAL Patent: JP 2002526425-A 19 20-AUG-2002;
THE REGENTS OF THE UNIVERSITY OF CALIFORNIA
COMMENT OS Artificial Sequence
PN JP 2002526425-A/19
PD 20-AUG-2002
PF 15-SEP-1999 JP 2000573397
PR 05-OCT-1998 US 09/167039
PI ETAL,RAZ,ANTHONY A HORNER,DENNIS A CARSON
PC A61K39/39,A61K31/7088,A61K31/7105,A61K31/711,A61P11/00 PC
A61P27/14,A61P37/04,
PC C12N15/09,G01N33/15,G01N33/50//C12N5/10,G01N33/531,C12N15/00,
PC C12N5/00
CC non-coding oligonucleotides
FH Key 1. .22
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1. .22
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QY 1 TGACTGTGAACGTTGAGATGA 22
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1 TGACTGTGAACGTTGAGATGA 22

RESULT 5
BD233617 22 bp DNA linear PAT 17-JUL-2003
LOCUS Immunostimulatory oligonucleotides, compositions thereof and
DEFINITION methods of use thereof.
ACCESSION BD233617
VERSION BD233617.1 GI:33043387
KEYWORDS JP 2002517156-A/2.
SOURCE unidentified
ORGANISM unidentified
unclassified.

REFERENCE 1 (bases 1 to 22)
AUTHORS Schwartz,D., Roman,M., Dina,D. and Raz,E.
TITLE Immunostimulatory oligonucleotides, compositions thereof and methods of use thereof
JOURNAL Patent: JP 2002517156-A 2 11-JUN-2002;
DYNAMAX TECHNOLOGIES CORP
COMMENT OS Unidentified
PN JP 2002517156-A/2
PD 11-JUN-2002
PF 05-JUN-1998 JP 199502884
PR 06-JUN-1997 US 60/048793
PI DAVID SCHWARTZ, MARK ROMAN, DINO DINA, EYAL RAZ
PC C12N15/09, A61K31/7088, A61K31/7115, A61P37/02, A61P43/00, C12Q1/68, PC
C12N15/00
CC Strandedness: Single;
CC Topology: Linear;
CC Immunostimulatory oligonucleotides, compositions thereof and methods of use thereof
CC use thereof
FH Key
FT source
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Query Match 100.0%; Score 22; DB 6; Length 22;
Best Local Similarity 100.0%; Pred. No. 0.46;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 TGACTGTGAACGTTGAGATGA 22
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1 TGACTGTGAACGTTGAGATGA 22

Db 1 TGACTGTGAACGTTGAGATGA 22

RESULT 6
LOCUS BD251283 22 bp DNA linear PAT 17-JUL-2003
DEFINITION Enhancement of Neisseria antigen bactericidal activity using CG motif-containing oligonucleotide.
ACCESSION BD251283
VERSION BD251283.1 GI:33061053
KEYWORDS JP 2002537353-A/19.
SOURCE synthetic construct
ORGANISM synthetic construct
REFERENCE 1 (bases 1 to 22)
AUTHORS Grandi,G., Rapunoli,R., Giuliani,M.M. and Pizarra,M.
TITLE Enhancement of Neisseria antigen Bactericidal activity using CG motif-containing oligonucleotide
JOURNAL Patent: JP 2002537353-A 19 05-NOV-2002;
CHIRON SPA
COMMENT OS Artificial Sequence
PN JP 2002537353-A/19
PD 05-NOV-2002
PF 09-FEB-2000 JP 200600685
PR 26-FEB-1999 US 60/121792
PI GUIDO GRANDI, RINO RAPUNOLI, MARZIA MONICA GIULIANI, MARIAGRAZIA PIZARRA
PC A61K39/095, A61K31/7088, A61K39/39, A61P31/04, C07K14/22, C12N15/09, C12N15/00
CC oligonucleotide adjuvant
FH Key
FT source
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ORIGIN /db_xref="taxon:32630"

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Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 TGACTGTGAACGTTGAGATGA 22
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Db 1 TGACTGTGAACGTTGAGATGA 22

RESULT 7
LOCUS BD272057 22 bp DNA linear PAT 17-JUL-2003
DEFINITION Use of stabilized oligonucleotide for producing agents having antitumor activity.
ACCESSION BD272057
VERSION BD272057.1 GI:33081825
KEYWORDS JP 2002539265-A/2.
SOURCE synthetic construct
ORGANISM synthetic construct
REFERENCE 1 (bases 1 to 22)
AUTHORS Carpenter,A.
TITLE Use of stabilized oligonucleotide for producing agents having antitumor activity
JOURNAL Patent: JP 2002539265-A 2 19-NOV-2002;
ASSISTANCE PUBLIQUE HOPITAUX DE PARIS, INSTITUT NATIONAL DE LA SANTE ET DE LA RECHERCHE MEDICALE (INSERM)
COMMENT OS Artificial Sequence
PN JP 2002539265-A/2
PD 19-NOV-2002
PF 17-MAR-2000 JP 2000606246
PI 19-MAR-1999 FR 99/03433
PI ANTOINE CARPENTIER
PC A61K47/48, A61K31/711, A61P35/00
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Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 TGACTGTGAACGTTGAGATGA 22
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1 TGACTGTGAACGTTGAGATGA 22

Db 1 TGACTGTGAACGTTGAGATGA 22

RESULT 8
LOCUS AR268334 22 bp DNA linear PAT 10-APR-2003
DEFINITION Sequence 19 from patent US 6498148.
ACCESSION AR268334
VERSION AR268334.1 GI:29696684
KEYWORDS Unknown.
SOURCE Unknown.
ORGANISM Unknown.
REFERENCE 1 (bases 1 to 22)
AUTHORS Raz,E.
TITLE Immunization-free methods for treating antigen-stimulated inflammation in a mammalian host and shifting the host's antigen immune responsiveness to a Th1 phenotype
JOURNAL Patent: US 6498148-A 19 24-DEC-2002;

FEATURES Location/Qualifiers
source 1..22
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Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 TGAAGTGAACGTTGAGATGA 22
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RESULT 9
AR287741 22 bp DNA linear PAT 12-JUN-2003
LOCUS AR287741
DEFINITION Sequence 1 from patent US 6534062.
ACCESSION AR287741
VERSION AR287741.1 GI:31674761
KEYWORDS
SOURCE Unknown.
ORGANISM Unclassified.

REFERENCE 1 (bases 1 to 22)
AUTHORS Raz,E., Cho,H.J., Richman,D. and Horner,A.A.
TITLE Methods for increasing a cytotoxic T lymphocyte response in vivo
JOURNAL Patent: US 6534062-A 1 18-MAR-2003;
FEATURES Location/Qualifiers
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/mol_type="genomic DNA"

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QY 1 TGAAGTGAACGTTGAGATGA 22
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1 TGAAGTGAACGTTGAGATGA 22

RESULT 10
AR287743 22 bp DNA linear PAT 12-JUN-2003
LOCUS AR287743
DEFINITION Sequence 3 from patent US 6534062.
ACCESSION AR287743
VERSION AR287743.1 GI:31674763
KEYWORDS
SOURCE Unknown.
ORGANISM Unclassified.

REFERENCE 1 (bases 1 to 22)
AUTHORS Raz,E., Cho,H.J., Richman,D. and Horner,A.A.
TITLE Methods for increasing a cytotoxic T lymphocyte response in vivo
JOURNAL Patent: US 6534062-A 3 18-MAR-2003;
FEATURES Location/Qualifiers
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RESULT 11
AR308057 22 bp DNA linear PAT 12-JUN-2003
LOCUS AR308057
DEFINITION Sequence 1 from patent US 6552006.
ACCESSION AR308057
VERSION AR308057.1 GI:31698950
KEYWORDS
SOURCE Unknown.
ORGANISM Unclassified.

REFERENCE 1 (bases 1 to 22)
AUTHORS Raz,E., Kornbluth,R., Catanzaro,A., Hayashi,T. and Carson,D.
TITLE Immunomodulatory polynucleotides in treatment of an infection by an intracellular pathogen
JOURNAL Patent: US 6552006-A 1 22-APR-2003;
FEATURES Location/Qualifiers
source 1..22
/organism="unknown"
/mol_type="genomic DNA"

Query Match 100.0%; Score 22; DB 6; Length 22;
Best Local Similarity 100.0%; Pred. No. 0.46;
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QY 1 TGAAGTGAACGTTGAGATGA 22
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1 TGAAGTGAACGTTGAGATGA 22

RESULT 12
AR352573 22 bp DNA linear PAT 17-AUG-2003
LOCUS AR352573
DEFINITION Sequence 2 from patent US 6589940.
ACCESSION AR352573
VERSION AR352573.1 GI:33757824
KEYWORDS
SOURCE Unknown.
ORGANISM Unclassified.

REFERENCE 1 (bases 1 to 22)
AUTHORS Raz,E., Roman,M. and Dina,D.
TITLE Immunostimulatory oligonucleotides, compositions thereof and methods of use thereof
JOURNAL Patent: US 6589940-A 2 08-JUL-2003;
FEATURES Location/Qualifiers
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RESULT 13
AR383158 22 bp DNA linear PAT 18-DEC-2003
LOCUS AR383158
DEFINITION Sequence 1 from patent US 6610661.
ACCESSION AR383158
VERSION AR383158.1 GI:40092605
KEYWORDS
SOURCE Unknown.
ORGANISM Unclassified.

REFERENCE 1 (bases 1 to 22)
AUTHORS Carson,D.A., Raz,E. and Roman,M.
TITLE Immunostimulatory polynucleotide/immunomodulatory molecule

JOURNAL Conjugates
Patent: US 6610661-A 1 26-AUG-2003;
FEATURES Location/Qualifiers
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Query Match 100.0%; Score 22; DB 6; Length 22;
Best Local Similarity 100.0%; Pred. No. 0.46;
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RESULT 14
LOCUS AR392162 22 bp DNA linear PAT 18-DEC-2003
DEFINITION Sequence 1 from patent US 6613751.
ACCESSION AR392162
VERSION AR392162.1 GI:40116139
KEYWORDS
SOURCE Unknown.
ORGANISM Unclassified.
REFERENCE 1 (bases 1 to 22)
AUTHORS Raz, E. and Rachmilitz, D.
TITLE Method for treating inflammatory bowel disease and other forms of
gastrointestinal inflammation
JOURNAL Patent: US 6613751-A 1 02-SEP-2003;
FEATURES Location/Qualifiers
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source /organism="unknown"
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Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

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1 TGAAGTGAACGTTGAGATGA 22

RESULT 15
LOCUS AX036945 22 bp DNA linear PAT 16-NOV-2000
DEFINITION Sequence 2 from Patent FR2790955.
ACCESSION AX036945
VERSION AX036945.1 GI:11226373
KEYWORDS
SOURCE synthetic construct
ORGANISM synthetic construct
REFERENCE 1
AUTHORS Carpentier, A.
JOURNAL Patent: FR 2790955-A 2 22-SEP-2000;
ASSIST PUBLI HOPITAUX DE PARIS (FR)
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ORIGIN

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Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

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1 TGAAGTGAACGTTGAGATGA 22

RESULT 16

LOCUS AX046993 22 bp DNA linear PAT 15-DEC-2000
DEFINITION Sequence 2 from Patent WO0067787.
ACCESSION AX046993
VERSION AX046993.1 GI:11876420
KEYWORDS
SOURCE synthetic construct
ORGANISM synthetic construct
REFERENCE 1
AUTHORS Moss, R. B.
TITLE HIV immunogenic compositions and methods
JOURNAL Patent: WO 0067787-A 2 16-NOV-2000;
THE IMMUNE RESPONSE CORPORATION (US)
FEATURES Location/Qualifiers
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source /organism="synthetic construct"
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RESULT 17
LOCUS AX083675 22 bp DNA linear PAT 28-FEB-2001
DEFINITION Sequence 1 from Patent WO0112223.
ACCESSION AX083675
VERSION AX083675.1 GI:13185407
KEYWORDS
SOURCE synthetic construct
ORGANISM synthetic construct
REFERENCE 1
AUTHORS van Nest, G.
TITLE Methods of modulating an immune response using immunostimulatory s
sequences and compositions for use therein
JOURNAL Patent: WO 0112223-A 1 22-FEB-2001;
Dynavax Technologies Corporation (US)
FEATURES Location/Qualifiers
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Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

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AX135650

ORIGIN

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RESULT 23
AX252520
LOCUS AX252520 22 bp DNA linear PAT 05-OCT-2001
DEFINITION Sequence 1 from Patent WO0168144.
ACCESSION AX252520
VERSION AX252520.1 GI:15985791
KEYWORDS
SOURCE synthetic construct
ORGANISM synthetic construct
REFERENCE 1
AUTHORS van Nest,G. and Tuck,S.
TITLE Biodegradable immunomodulatory formulations and methods for use
JOURNAL Patent: WO 0168144-A 1 20-SEP-2001;
Dynavax Technologies Corporation (US)
LOCATION/Qualifiers
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ORIGIN

Query Match 100.0%; Score 22; DB 6; Length 22;
Best Local Similarity 100.0%; Pred. No. 0.46;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 TGAAGTGAACGTTGAGATGA 22
1 TGAAGTGAACGTTGAGATGA 22

RESULT 24
AX252934
LOCUS AX252934 22 bp DNA linear PAT 05-OCT-2001
DEFINITION Sequence 1 from Patent WO0168143.
ACCESSION AX252934
VERSION AX252934.1 GI:15986201
KEYWORDS
SOURCE synthetic construct
ORGANISM synthetic construct
REFERENCE 1
AUTHORS van Nest,G. and Tuck,S.
TITLE Immunomodulatory formulations and methods for use thereof
JOURNAL Patent: WO 0168143-A 1 20-SEP-2001;
Dynavax Technologies Corporation (US)
LOCATION/Qualifiers
1. .22

FEATURES
source /organism="synthetic construct"
/mol_type="unassigned DNA"
/db_xref="taxon:32630"
/note="Polynucleotide containing CG"

ORIGIN

Query Match 100.0%; Score 22; DB 6; Length 22;
Best Local Similarity 100.0%; Pred. No. 0.46;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 TGAAGTGAACGTTGAGATGA 22
1 TGAAGTGAACGTTGAGATGA 22

RESULT 25
AX253113
LOCUS AX253113 22 bp DNA linear PAT 05-OCT-2001
DEFINITION Sequence 1 from Patent WO0168116.
ACCESSION AX253113
VERSION AX253113.1 GI:15986281
KEYWORDS
SOURCE synthetic construct
ORGANISM synthetic construct
REFERENCE 1
AUTHORS van Nest,G.
TITLE Methods of preventing and treating respiratory viral infection using
JOURNAL Patent: WO 0168116-A 1 20-SEP-2001;
Dynavax Technologies Corporation (US)
LOCATION/Qualifiers
1. .22

FEATURES
source /organism="synthetic construct"
/mol_type="unassigned DNA"
/db_xref="taxon:32630"
/note="Polynucleotide containing CG"

ORIGIN

Query Match 100.0%; Score 22; DB 6; Length 22;
Best Local Similarity 100.0%; Pred. No. 0.46;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 TGAAGTGAACGTTGAGATGA 22
1 TGAAGTGAACGTTGAGATGA 22

RESULT 26
AX253123
LOCUS AX253123 22 bp DNA linear PAT 05-OCT-2001
DEFINITION Sequence 1 from Patent WO0168077.
ACCESSION AX253123
VERSION AX253123.1 GI:15986291
KEYWORDS
SOURCE synthetic construct
ORGANISM synthetic construct
REFERENCE 1
AUTHORS van Nest,G.
TITLE Methods of preventing and treating viral infections using
JOURNAL Patent: WO 0168077-A 1 20-SEP-2001;
Dynavax Technologies Corporation (US)
LOCATION/Qualifiers
1. .22

FEATURES
source /organism="synthetic construct"
/mol_type="unassigned DNA"
/db_xref="taxon:32630"
/note="Polynucleotide containing CG"

ORIGIN

Query Match 100.0%; Score 22; DB 6; Length 22;
Best Local Similarity 100.0%; Pred. No. 0.46;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 TGAAGTGAACGTTGAGATGA 22
1 TGAAGTGAACGTTGAGATGA 22

RESULT 27
AX253133
LOCUS AX253133 22 bp DNA linear PAT 05-OCT-2001
DEFINITION Sequence 1 from Patent WO0168077.
ACCESSION AX253133
VERSION AX253133.1 GI:15986291
KEYWORDS
SOURCE synthetic construct
ORGANISM synthetic construct
REFERENCE 1
AUTHORS van Nest,G.
TITLE Methods of preventing and treating viral infections using
JOURNAL Patent: WO 0168077-A 1 20-SEP-2001;
Dynavax Technologies Corporation (US)
LOCATION/Qualifiers
1. .22

FEATURES
source /organism="synthetic construct"
/mol_type="unassigned DNA"
/db_xref="taxon:32630"
/note="Polynucleotide containing CG"

ORIGIN

Query Match 100.0%; Score 22; DB 6; Length 22;
Best Local Similarity 100.0%; Pred. No. 0.46;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 TGAAGTGAACGTTGAGATGA 22
1 TGAAGTGAACGTTGAGATGA 22

RESULT 27
LOCUS AX468499 22 bp DNA linear PAT 16-JUL-2002
DEFINITION Sequence 19 from Patent WO0262309.
ACCESSION AX468499
VERSION AX468499.1 GI:21901329
KEYWORDS
SOURCE synthetic construct
ORGANISM synthetic construct
REFERENCE 1
AUTHORS O'Hagan,D., Otten,G., Donnelly,J.J., Polo,J.M., Barnett,S.,
TITLE Singh,M., Ulmer,U. and Dubensky,T.W.
JOURNAL Microparticles for delivery of the heterologous nucleic acids
PATENT: WO 0262309-A 19 04-APR-2002;
CHIRON CORPORATION (US)
FEATURES
source 1..22
/organism="synthetic construct"
/mol_type="unassigned DNA"
/db_xref="taxon:32630"
/note="Artificial sequence is synthesized"

ORIGIN
Query Match 100.0%; Score 22; DB 6; Length 22;
Best Local Similarity 100.0%; Pred.No. 0.46;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 TGACTGTGAACGTTGCAGATGA 22
1 |||||
1 TGACTGTGAACGTTGCAGATGA 22

Db 1 TGACTGTGAACGTTGCAGATGA 22

RESULT 28
LOCUS AX592312 22 bp DNA linear PAT 27-JAN-2003
DEFINITION Sequence 2 from Patent WO02052002.
ACCESSION AX592312
VERSION AX592312.1 GI:27950414
KEYWORDS
SOURCE synthetic construct
ORGANISM synthetic construct
REFERENCE 1
AUTHORS Fearon,K.L. and Dina,D.
TITLE Immunomodulatory polynucleotides and methods of using the same
JOURNAL Patent: WO 02052002-A 2 04-JUL-2002;
Dynavax Technologies Corporation (US)
FEATURES
source 1..22
/organism="synthetic construct"
/mol_type="unassigned DNA"
/db_xref="taxon:32630"
/note="Polynucleotide containing CG"

ORIGIN
Query Match 100.0%; Score 22; DB 6; Length 22;
Best Local Similarity 100.0%; Pred.No. 0.46;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 TGACTGTGAACGTTGCAGATGA 22
1 |||||
1 TGACTGTGAACGTTGCAGATGA 22

Db 1 TGACTGTGAACGTTGCAGATGA 22

RESULT 29
LOCUS AX592350 22 bp DNA linear PAT 27-JAN-2003
DEFINITION Sequence 40 from Patent WO02052002.
ACCESSION AX592350
VERSION AX592350.1 GI:27950452
KEYWORDS
SOURCE synthetic construct

ORGANISM synthetic construct
artificial sequences.
REFERENCE 1
AUTHORS Fearon,K.L. and Dina,D.
JOURNAL Immunomodulatory polynucleotides and methods of using the same
PATENT: WO 02052002-A 40 04-JUL-2002;
Dynavax Technologies Corporation (US)
FEATURES
source 1..22
/organism="synthetic construct"
/mol_type="unassigned DNA"
/db_xref="taxon:32630"
/note="Polynucleotide containing CG"

ORIGIN
Query Match 100.0%; Score 22; DB 6; Length 22;
Best Local Similarity 100.0%; Pred.No. 0.46;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 TGACTGTGAACGTTGCAGATGA 22
1 |||||
1 TGACTGTGAACGTTGCAGATGA 22

Db 1 TGACTGTGAACGTTGCAGATGA 22

RESULT 30
LOCUS AX592369 22 bp DNA linear PAT 27-JAN-2003
DEFINITION Sequence 59 from Patent WO02052002.
ACCESSION AX592369
VERSION AX592369.1 GI:27950471
KEYWORDS
SOURCE synthetic construct
ORGANISM synthetic construct
REFERENCE 1
AUTHORS Fearon,K.L. and Dina,D.
TITLE Immunomodulatory polynucleotides and methods of using the same
JOURNAL Patent: WO 02052002-A 59 04-JUL-2002;
Dynavax Technologies Corporation (US)
FEATURES
source 1..22
/organism="synthetic construct"
/mol_type="unassigned DNA"
/db_xref="taxon:32630"
/note="Polynucleotide containing CG"

ORIGIN
Query Match 100.0%; Score 22; DB 6; Length 22;
Best Local Similarity 100.0%; Pred.No. 0.46;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 TGACTGTGAACGTTGCAGATGA 22
1 |||||
1 TGACTGTGAACGTTGCAGATGA 22

Db 1 TGACTGTGAACGTTGCAGATGA 22

RESULT 31
LOCUS AX720306 22 bp DNA linear PAT 15-APR-2003
DEFINITION Sequence 1 from Patent WO03000232.
ACCESSION AX720306
VERSION AX720306.1 GI:29892140
KEYWORDS
SOURCE synthetic construct
ORGANISM synthetic construct
REFERENCE 1
AUTHORS Barenholz,Y., Kedar,E., Louria-Hayon,Y., Joseph,A., Raz,E. and
TITLE Takabayashi,K.
JOURNAL Method for preparation of vesicles loaded with immunostimulatory
oligonucleotides
PATENT: WO 03000232-A 1 03-JAN-2003;
Yissum Research Development Company of the Hebrew Univ of Jerusalem

(IL) ; The Regents of the University of California (US)
FEATURES
source
1..22
/organism="synthetic construct"
/mol_type="unassigned DNA"
/db_xref="taxon:32630"
ORIGIN
Query Match 100.0%; Score 22; DB 6; Length 22;
Best Local Similarity 100.0%; Pred. No. 0.46;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
Qy 1 TGACTGTGAACGTTGAGATGA 22
1 TGACTGTGAACGTTGAGATGA 22
Db 1 TGACTGTGAACGTTGAGATGA 22
RESULT 32
BD009235 22 bp DNA linear PAT 31-JAN-2002
LOCUS Immunostimulatory polynucleotide/immunomodulatory molecule
DEFINITION
ACCESSION BD009235
KEYWORDS JP 2001503254-A/34.
SOURCE synthetic construct
ORGANISM artificial sequences.
REFERENCE 1 (bases 1 to 22)
AUTHORS Carson,D.A., Raz,E. and Roman,M.
TITLE Immunostimulatory polynucleotide/immunomodulatory molecule
JOURNAL Patent: JP 2001503254-A 34 13-MAR-2001;
THE REGENTS OF THE UNIVERSITY OF CALIFORNIA
COMMENT OS Artificial Sequence
PN JP 2001503254-A/34
PD 13-MAR-2001
PF 09-OCT-1997 JP 1998518649
PI 11-OCT-1996 US 60/028118
PI DENNIS A CARSON, EYAL RAZ, MARK ROMAN
PC A61K39/00,A61K39/385,A61K39/39
CC
FH Key Location/Qualifiers
FT source 1..22
location/Qualifiers
1..22
/organism="synthetic construct"
/mol_type="genomic DNA"
/db_xref="taxon:32630"
ORIGIN
Query Match 100.0%; Score 22; DB 6; Length 22;
Best Local Similarity 100.0%; Pred. No. 0.46;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
Qy 1 TGACTGTGAACGTTGAGATGA 22
1 TGACTGTGAACGTTGAGATGA 22
Db 1 TGACTGTGAACGTTGAGATGA 22
RESULT 33
AX250707 22 bp DNA linear PAT 05-OCT-2001
LOCUS Sequence 7 from Patent WO0166078.
DEFINITION AX250707
ACCESSION AX250707.1 GI:15984445
KEYWORDS
SOURCE synthetic construct
ORGANISM artificial sequences.
REFERENCE 1
AUTHORS van Nest,G.
TITLE Methods of suppressing hepatitis virus infection using

Immunomodulatory polynucleotide sequences
JOURNAL Patent: WO 0168078-A 7 20-SEP-2001;
DynaVax Technologies Corporation (US)
FEATURES
source
1..22
/organism="synthetic construct"
/mol_type="unassigned DNA"
/db_xref="taxon:32630"
/note="B is 5-bromocytosine"
ORIGIN
Query Match 96.4%; Score 21.2; DB 6; Length 22;
Best Local Similarity 95.5%; Pred. No. 1.3;
Matches 21; Conservative 1; Mismatches 0; Indels 0; Gaps 0;
Qy 1 TGACTGTGAACGTTGAGATGA 22
1 TGACTGTGAACGTTGAGATGA 22
Db 1 TGACTGTGAACGTTGAGATGA 22
RESULT 34
BD233630 22 bp DNA linear PAT 17-JUL-2003
LOCUS Immunostimulatory oligonucleotides, compositions thereof and
DEFINITION methods of use thereof.
ACCESSION BD233630
KEYWORDS BD233630.1 GI:33043400
SOURCE JP 2002517156-A/15.
ORGANISM unidentified
REFERENCE 1 (bases 1 to 22)
AUTHORS Schwartz,D., Roman,M., Dina,D. and Raz,E.
TITLE Immunostimulatory oligonucleotides, compositions thereof and
JOURNAL methods of use thereof
PATENT: JP 2002517156-A 15 11-JUN-2002;
DYNAVAX TECHNOLOGIES CORP
COMMENT OS Unidentified
PN JP 2002517156-A/15
PD 11-JUN-2002
PF 05-JUN-1998 JP 1999502884
PF 06-JUN-1997 US 60/048793
PI DAVID SCHWARTZ, MARK ROMAN, DINO DINA, EYAL RAZ
PC
C12N15/09,A61K31/7088,A61K31/7115,A61P37/02,A61P43/00,C12Q1/68, PC
C12N15/00
CC Strandedness: Single;
CC Topology: Linear;
CC 5-bromocytosine
FH Key Location/Qualifiers
FT modified base 11
location/Qualifiers
1..22
/organism="unidentified"
/mol_type="genomic DNA"
/db_xref="taxon:32644"
ORIGIN
Query Match 95.5%; Score 21; DB 6; Length 22;
Best Local Similarity 95.5%; Pred. No. 1.7;
Matches 21; Conservative 0; Mismatches 1; Indels 0; Gaps 0;
Qy 1 TGACTGTGAACGTTGAGATGA 22
1 TGACTGTGAACGTTGAGATGA 22
Db 1 TGACTGTGAACGTTGAGATGA 22
RESULT 35
AR352586 22 bp DNA linear PAT 17-AUG-2003
LOCUS Sequence 15 from patent US 6589940.
DEFINITION AR352586
ACCESSION AR352586.1 GI:33757837
VERSION

KEYWORDS
SOURCE Unknown.
ORGANISM Unknown.
REFERENCE 1 (bases 1 to 22)
AUTHORS Raz,B., Roman,M. and Dina,D.
TITLE Immunostimulatory oligonucleotides, compositions thereof and methods of use thereof
JOURNAL Patent: US 6589940-A 15 08-JUL-2003;
FEATURES Location/Qualifiers
source 1..22
/organism="unknown"
/mol_type="genomic DNA"

ORIGIN
Query Match 95.5%; Score 21; DB 6; Length 22;
Best Local Similarity 95.5%; Pred. No. 1.7;
Matches 21; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

QY 1 TGACTGTGAACGTTGAGATGA 22
1 TGACTGTGAANGTTGAGATGA 22

Db 1 TGACTGTGAACGTTGAGATGA 22
1 TGACTGTGAANGTTGAGATGA 22

RESULT 36
AX083681 22 bp DNA PAT 28-FEB-2001
LOCUS Sequence 7 from Patent WO0112223.
DEFINITION AX083681
ACCESSION AX083681
VERSION AX083681.1 GI:13185413
KEYWORDS
SOURCE synthetic construct
ORGANISM synthetic construct
REFERENCE 1
AUTHORS van Nest,G.
TITLE Methods of modulating an immune response using immunostimulatory s
JOURNAL Patent: WO 0112223-A 7 22-FEB-2001;
Dynaavax Technologies Corporation (US)
FEATURES Location/Qualifiers
source 1..22
/organism="synthetic construct"
/mol_type="unassigned DNA"
/db_xref="taxon:32630"
11
/note="5-bromocytosine"
/mod_base=OTHER

ORIGIN
Query Match 95.5%; Score 21; DB 6; Length 22;
Best Local Similarity 95.5%; Pred. No. 1.7;
Matches 21; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

QY 1 TGACTGTGAACGTTGAGATGA 22
1 TGACTGTGAANGTTGAGATGA 22

Db 1 TGACTGTGAACGTTGAGATGA 22
1 TGACTGTGAANGTTGAGATGA 22

RESULT 37
AX148642 22 bp DNA PAT 08-JUN-2001
LOCUS Sequence 7 from Patent WO0155991.
DEFINITION AX148642
ACCESSION AX148642
VERSION AX148642.1 GI:14347260
KEYWORDS
SOURCE synthetic construct
ORGANISM synthetic construct
REFERENCE 1
AUTHORS Tuck,S. and van Nest,G.
TITLE Immunomodulatory compositions containing an immunostimulatory
sequence linked to antigen and methods of use thereof

JOURNAL Patent: WO 0135991-A 7 25-MAY-2001;
Dynaavax Technologies Corporation (US)
FEATURES Location/Qualifiers
source 1..22
/organism="synthetic construct"
/mol_type="unassigned DNA"
/db_xref="taxon:32630"
/note="synthetic construct"
11
/note="5-bromocytosine"
/mod_base=OTHER

ORIGIN
Query Match 95.5%; Score 21; DB 6; Length 22;
Best Local Similarity 95.5%; Pred. No. 1.7;
Matches 21; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

QY 1 TGACTGTGAACGTTGAGATGA 22
1 TGACTGTGAANGTTGAGATGA 22

Db 1 TGACTGTGAACGTTGAGATGA 22
1 TGACTGTGAANGTTGAGATGA 22

RESULT 38
AX252297 22 bp DNA PAT 05-OCT-2001
LOCUS Sequence 7 from Patent WO0168117.
DEFINITION AX252297
ACCESSION AX252297
VERSION AX252297.1 GI:15985638
KEYWORDS
SOURCE synthetic construct
ORGANISM synthetic construct
REFERENCE 1
AUTHORS van Nest,G.
TITLE Methods of reducing papillomavirus infection using immunomodulatory
JOURNAL Patent: WO 0168117-A 7 20-SEP-2001;
Dynaavax Technologies Corporation (US)
FEATURES Location/Qualifiers
source 1..22
/organism="synthetic construct"
/mol_type="unassigned DNA"
/db_xref="taxon:32630"
/note="Polynucleotide containing (5-bromocytosine)G"
11
misc_feature
/note="n = 5-bromocytosine"

ORIGIN
Query Match 95.5%; Score 21; DB 6; Length 22;
Best Local Similarity 95.5%; Pred. No. 1.7;
Matches 21; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

QY 1 TGACTGTGAACGTTGAGATGA 22
1 TGACTGTGAANGTTGAGATGA 22

Db 1 TGACTGTGAACGTTGAGATGA 22
1 TGACTGTGAANGTTGAGATGA 22

RESULT 39
AX252515 22 bp DNA PAT 05-OCT-2001
LOCUS Sequence 7 from Patent WO0168103.
DEFINITION AX252515
ACCESSION AX252515
VERSION AX252515.1 GI:15985786
KEYWORDS
SOURCE synthetic construct
ORGANISM synthetic construct
REFERENCE 1
AUTHORS van Nest,G.
TITLE Methods of ameliorating symptoms of herpes infection using
JOURNAL immunomodulatory polynucleotide sequences
Patent: WO 0168103-A 7 20-SEP-2001;
Dynaavax Technologies Corporation (US)

FEATURES Location/Qualifiers
 source 1..22

/organism="synthetic construct"
 /mol_type="unassigned DNA"
 /db_xref="taxon:32630"
 /note="Polynucleotide containing (5-bromocytosine)G"

misc_feature 11
 /note="n = 5-bromocytosine"

ORIGIN

Query Match 95.5%; Score 21; DB 6; Length 22;
 Best Local Similarity 95.5%; Pred. No. 1.7;
 Matches 21; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

QY 1 TGA CTGTGAACGTT CGAGATGA 22
 |||||
 Db 1 TGA CTGTGAANGTT CGAGATGA 22

RESULT 40

AX252526 22 bp DNA linear PAT 05-OCT-2001
 LOCUS
 DEFINITION Sequence 7 from Patent WO0168144.
 ACCESSION AX252526
 VERSION AX252526.1 GI:15985797

KEYWORDS

SOURCE synthetic construct
 ORGANISM synthetic construct
 artificial sequences.

REFERENCE

1 van Nest, G. and Tuck, S.
 AUTHORS Biodegradable immunomodulatory formulations and methods for use
 TITLE thereof

JOURNAL Patent: WO 0168144-A 7 20-SEP-2001;
 Dynavax Technologies Corporation (US)

FEATURES

source

1..22
 /organism="synthetic construct"
 /mol_type="unassigned DNA"
 /db_xref="taxon:32630"
 /note="Polynucleotide containing (5-bromocytosine) G"
 misc_feature 11
 /note="n = 5-bromocytosine"

ORIGIN

Query Match 95.5%; Score 21; DB 6; Length 22;
 Best Local Similarity 95.5%; Pred. No. 1.7;
 Matches 21; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

QY 1 TGA CTGTGAACGTT CGAGATGA 22
 |||||
 Db 1 TGA CTGTGAANGTT CGAGATGA 22

Search completed: October 30, 2004, 17:55:36
 Job time : 1428 secs

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CC against an antigen to a level greater than the host immune response to
CC either the IMM, antigen or ISS-PN alone. These responses to ISS-PN/IMM
CC conjugates are particularly acute during the important early phase of the
CC host immune response to an antigen. The ISS-PN/IMM conjugates boost both
CC humoral (antibody) and cellular (Th1 type) immune responses of the host.
CC Thus, use of the method to boost the immune responsiveness of a host to
CC subsequent challenge by a sensitising antigen without immunisation avoids
CC the risk of Th2-mediated, immunisation-induced anaphylaxis by suppressing
CC IgE production in response to the antigen challenge. The conjugates can
CC also be used to combat pathogenic infection and to stimulate therapeutic
CC angiogenesis to treat conditions in which localised blood flow plays a
CC significant etiological role, e.g. retinopathies

CC
CC
SQ Sequence 22 BP; 6 A; 3 C; 7 G; 6 T; 0 U; 0 Other;

Query Match 100.0%; Score 22; DB 2; Length 22;
Best Local Similarity 100.0%; Pred. No. 0.21;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 TGAAGTGAACGTTGAGATGA 22
Db 1 TGAAGTGAACGTTGAGATGA 22

RESULT 2
AAV80097 standard; DNA; 22 BP.
XX
XX AAV80097;
AC
XX
XX 12-MAR-1999 (first entry)
DT
XX
XX Immunomodulatory oligo comprising an ISS sequence.
DE
XX
XX Immunomodulatory; immunostimulatory; octanucleotide; immune regulation;
KW ISS: cancer; allergy; asthma; hepatitis B infection; papillomavirus;
KW human immunodeficiency virus; influenza; herpes; M. tuberculosis; ss;
KW B. pertussis; malaria; plasmodia; leishmania; Trypanosoma; Schistosoma.
XX
XX Synthetic.
OS
XX
XX WO9855495-A2.
PN
XX
XX 10-DEC-1998.
PD
XX
XX 05-JUN-1998; 98WO-US011578.
PF
XX
XX 06-JUN-1997; 97US-0048793P.
PR
XX
XX (DYNA-) DYNAVAX TECHNOLOGIES CORP.
PA
XX
XX Schwartz D, Roman M, Dina D;
PI
XX
XX WPI, 1999-059898/05.
DR
XX
XX Immunostimulatory oligonucleotides regulate the immune system - and
PT contain an immune-stimulating octanucleotide sequence; for treating
PT cancer, allergic and infectious diseases.
XX
XX Claim 5; Page 29; 63pp; English.

CC The invention relates to immunomodulatory oligonucleotides that comprise
CC at least 1 immunostimulatory octanucleotide sequence (ISS) where the ISS
CC sequences are selected from the group consisting of AAGCTTC, AAGCTTCG,
CC GAGCTTC, and GAGCTTCG. The immunomodulatory sequences are used to treat
CC patients needing immune regulation, such as those suffering from cancer,
CC an allergic disease and asthma. They are also used to prevent infectious
CC diseases such as influenza, herpes, hepatitis B, human immunodeficiency
CC and papillomavirus, Hemophilus influenza, Mycobacterium tuberculosis and
CC Bordetella pertussis, malarial plasmodia, leishmania, Trypanosoma and
CC Schistosoma. The immunomodulatory sequences are used to screen for human
CC immunostimulatory activity by incubating macrophage cells and the
CC oligonucleotide; and determining the relative amount of Th1-biased

CC cytokines in the supernatant. Sequences AAV80096 to AAV80103 represent
CC specific claimed examples of such immunomodulatory oligonucleotides

CC
SQ Sequence 22 BP; 6 A; 3 C; 7 G; 6 T; 0 U; 0 Other;

Query Match 100.0%; Score 22; DB 2; Length 22;
Best Local Similarity 100.0%; Pred. No. 0.21;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 TGAAGTGAACGTTGAGATGA 22
Db 1 TGAAGTGAACGTTGAGATGA 22

RESULT 3
AAV80103 standard; DNA; 22 BP.
XX
XX AAV80103;
AC
XX
XX 12-MAR-1999 (first entry)
DT
XX
XX Immunomodulatory oligo comprising an ISS sequence.
DE
XX
XX Immunomodulatory; immunostimulatory; octanucleotide; immune regulation;
KW ISS: cancer; allergy; asthma; hepatitis B infection; papillomavirus;
KW human immunodeficiency virus; influenza; herpes; M. tuberculosis; ss;
KW B. pertussis; malaria; plasmodia; leishmania; Trypanosoma; Schistosoma.
XX
XX Synthetic.
OS
XX
XX Key Location/Qualifiers
FH modified_base 11
FT /*tag= a
FT /note= "5'-promocytosine"
FT
XX
XX WO9855495-A2.
PN
XX
XX 10-DEC-1998.
PD
XX
XX 05-JUN-1998; 98WO-US011578.
PF
XX
XX 06-JUN-1997; 97US-0048793P.
PR
XX
XX (DYNA-) DYNAVAX TECHNOLOGIES CORP.
PA
XX
XX Schwartz D, Roman M, Dina D;
PI
XX
XX WPI, 1999-059898/05.
DR
XX
XX Immunostimulatory oligonucleotides regulate the immune system - and
PT contain an immune-stimulating octanucleotide sequence; for treating
PT cancer, allergic and infectious diseases.
XX
XX Claim 24; Page 30; 63pp; English.

CC The invention relates to immunomodulatory oligonucleotides that comprise
CC at least 1 immunostimulatory octanucleotide sequence (ISS) where the ISS
CC sequences are selected from the group consisting of AAGCTTC, AAGCTTCG,
CC GAGCTTC, and GAGCTTCG. The immunomodulatory sequences are used to treat
CC patients needing immune regulation, such as those suffering from cancer,
CC an allergic disease and asthma. They are also used to prevent infectious
CC diseases such as influenza, herpes, hepatitis B, human immunodeficiency
CC and papillomavirus, Hemophilus influenza, Mycobacterium tuberculosis and
CC Bordetella pertussis, malarial plasmodia, leishmania, Trypanosoma and
CC Schistosoma. The immunomodulatory sequences are used to screen for human
CC immunostimulatory activity by incubating macrophage cells and the
CC oligonucleotide; and determining the relative amount of Th1-biased
CC cytokines in the supernatant. Sequences AAV80096 to AAV80103 represent
CC specific claimed examples of such immunomodulatory oligonucleotides

XX
SQ Sequence 22 BP; 6 A; 3 C; 7 G; 6 T; 0 U; 0 Other;

Query Match 100.0%; Score 22; DB 2; Length 22;
 Best Local Similarity 100.0%; Pred. No. 0.21;
 Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 TGACTGTGAACGTTGCAGATGA 22
 |||
 DB 1 TGACTGTGAACGTTGCAGATGA 22

RESULT 4

AAV80102
 ID AAV80102 standard; DNA; 22 BP.

AC AAV80102;

DT 12-MAR-1999 (first entry)

DE Immunomodulatory oligo comprising an ISS sequence.

KW Immunomodulatory; immunostimulatory; octanucleotide; immune regulation;

KW ISS: cancer; allergy; asthma; hepatitis B infection; papillomavirus;

KW human immunodeficiency virus; influenza; herpes; M. tuberculosis; ss;

KW B. pertussis; malaria; plasmodia; Leishmania; Trypanosoma; Schistosoma.

OS Synthetic.

XX Key

XX modified_base

XX 11

XX /tag= a

XX /note= "5-bromocytosine"

XX WO9855495-A2.

XX 10-DEC-1998.

XX 05-JUN-1998; 98WO-US011578.

XX 06-JUN-1997; 97US-0048793P.

XX (DYNA-) DYNAMX TECHNOLOGIES CORP.

XX Schwartz D, Roman M, Dina D;

XX WPI; 1999-059898/05.

XX Immunostimulatory oligonucleotides regulate the immune system - and

XX contain an immune-stimulating octanucleotide sequence; for treating

XX cancer, allergic and infectious diseases.

XX Claim 23; Page 30; 63pp; English.

XX The invention relates to immunomodulatory oligonucleotides that comprise

XX at least 1 immunostimulatory octanucleotide sequence (ISS) where the ISS

XX sequences are selected from the group consisting of AACGTTCC, AACGTTGC,

XX GACGTTCC, and GACGTTGC. The immunomodulatory sequences are used to treat

XX patients needing immune regulation, such as those suffering from cancer,

XX an allergic disease and asthma. They are also used to prevent infectious

XX diseases such as influenza, herpes, hepatitis B, human immunodeficiency

XX and papillomavirus, Hemophilus influenza, Mycobacterium tuberculosis and

XX Bordetella pertussis, malarial plasmodia, Leishmania, Trypanosoma and

XX Schistosoma. The immunomodulatory sequences are used to screen for human

XX CC immunostimulatory activity by incubating macrophage cells and the

XX CC oligonucleotide; and determining the relative amount of TPL-biased

XX CC cytokines in the supernatant. Sequences AAV80096 to AAV80103 represent

XX CC specific claimed examples of such immunomodulatory oligonucleotides

XX SQ Sequence 22 BP; 6 A; 3 C; 7 G; 6 T; 0 U; 0 Other;

QY Query Match 100.0%; Score 22; DB 2; Length 22;

Best Local Similarity 100.0%; Pred. No. 0.21;

Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 TGACTGTGAACGTTGCAGATGA 22

DB 1 TGACTGTGAACGTTGCAGATGA 22
 |||
 DB 1 TGACTGTGAACGTTGCAGATGA 22

RESULT 5

AAK36624
 ID AAK36624 standard; DNA; 22 BP.

AC AAK36624;

DT 09-JUL-1999 (first entry)

DE ISS-ODN DY1018 nucleotide sequence.

KW Antigen-stimulated inflammation; immunostimulatory oligonucleotide;

KW granulocyte-mediated tissue inflammation; Th2 type immune response;

KW immune responsiveness modulation; idiopathic hypereosinophilic syndrome;

KW cutaneous basophil hypersensitivity; ISS-ODN; asthma; nasal polyps;

KW allergic rhinitis; atopic dermatitis; allergic conjunctivitis;

KW eosinophilic fasciitis; therapy; ss.

OS Synthetic.

XX WO9911275-A2.

XX 11-MAR-1999.

XX 04-SEP-1998; 98WO-US018382.

XX 05-SEP-1997; 97US-00927120.

XX (REGC) UNIV CALIFORNIA.

XX Ray B;

XX WPI; 1999-312404/26.

XX Reducing antigen-stimulated granulocyte-mediated inflammation.

XX Example 2; Page 30; 69pp; English.

XX This is the ISS-ODN DY1018 nucleotide sequence. The invention relates to

XX a method for preventing or reducing antigen-stimulated, granulocyte-

XX mediated tissue inflammation in a mammal, by administering an

XX immunostimulatory oligonucleotide (ISS-ODN), where: (a) reduction in, or

XX the absence of, a Th2-type immune response is measured; or (b) there is a

XX reduction or absence of other clinical signs of inflammation in the host

XX after antigen challenge. The method is used to reduce or suppress

XX granulocyte-mediated inflammation in a host tissue, and to modulate the

XX host's immune responsiveness to an antigen, particularly where the

XX CC subject suffers from asthma, nasal polyps, allergic rhinitis, atopic

XX dermatitis, allergic conjunctivitis, eosinophilic fasciitis, idiopathic

XX hypereosinophilic syndrome, or cutaneous basophil hypersensitivity.

XX Unlike prior art treatment by antigen immunisation, the method is an

XX CC antigen-independent method, and avoids host production of both

XX CC interleukin-4 (IL-4), which carries risk of anaphylaxis, and IL-5 which

XX actually encourages granulocyte adhesion to endothelia

SQ Sequence 22 BP; 6 A; 3 C; 7 G; 6 T; 0 U; 0 Other;

QY Query Match 100.0%; Score 22; DB 2; Length 22;

Best Local Similarity 100.0%; Pred. No. 0.21;

Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 TGACTGTGAACGTTGCAGATGA 22

DB 1 TGACTGTGAACGTTGCAGATGA 22

RESULT 6

AAAI4467

ID AAAI4467 standard; DNA; 22 BP.

AC	AA14467;
XX	
DT	21-AUG-2000 (first entry)
XX	
DE	Immunostimulatory oligonucleotide (ISS-ODN) DY1018.
XX	
KM	Immunostimulatory oligonucleotide; adjuvant; mucosal immunity;
RW	secretory immunoglobulin A production; sIgA; Th1 phenotype; ds.
XX	
OS	Synthetic.
PX	
NN	WO200020039-A1.
PN	
PD	13-APR-2000.
XX	
PF	15-SEP-1999; 99WO-US021203.
XX	
PR	05-OCT-1998; 98US-00167039.
XX	
PA	(REGC) UNIV CALIFORNIA.
PI	
PZ	Raz E, Horner AA, Carson DA;
XX	
DR	WPI; 2000-303647/26.
XX	
PT	Immunostimulatory oligonucleotide adjuvant induces mucosal immunity to an
PT	antigen in a mammalian host through production of secretory
PT	immunoglobulin A.
XX	
PS	Claim 8; Page 21; 64pp; English.
XX	
CC	The invention relates to a method of inducing mucosal immunity to an
CC	antigen in a mammalian host, including the the production of secretory
CC	immunoglobulin A (sIgA). Immune protection in the mucosa (the principal
CC	site of entry of most foreign antigens) is mediated by mucosa-associated
CC	lymphoid tissue, epithelial and distinct B-cell, T-cell and accessory the
CC	cell sub-populations. The primary immune response which characterises the
CC	induction of mucosal immunity to an antigen is sIgA production by
CC	activated B-cells. The method comprises introducing an immunostimulatory
CC	oligonucleotide (ISS-ODN) and the antigen into host mucosa, where the ISS
CC	-ODN includes a core nucleotide sequence. The core nucleotide sequence is
CC	5'-Purine-Purine-C-G-Pyrimidine-Pyrimidine-3', specific examples of which
CC	are AACGTT, AGCGTC and GACGTT (SEQ ID NOS 1-3). A specific example of an
CC	ISS-ODN is D1018 (AA14467). The ISS-ODN is used as an adjuvant with an
CC	antigen for stimulating mucosal immunity. The level of sIgA production
CC	induced in the host is at least 3 times the magnitude of sIgA production
CC	achievable in response to introduction of antigen alone into the mucosal
CC	tissue and is equivalent or greater than the magnitude of sIgA production
CC	achievable in response to introduction of the antigen and cholera toxin
CC	adjuvant into the mucosal tissue. The host immune response is stimulated
CC	to antigen-specific IgA production, biased towards the Th1 phenotype
CC	while antigen-induced IgB production is avoided. The adjuvant has little
CC	or no known toxicity in mammals and its efficacy is comparable to that of
CC	cholera toxin which is used as a mucosal adjuvant. The present sequence
CC	represents the immunostimulatory oligonucleotide DY1018
XX	
SO	Sequence 22 BP; 6 A; 3 C; 7 G; 6 T; 0 U; 0 Other;
QY	
DB	
Query Match	100.0%; Score 22; DB 3; Length 22;
Best Local Similarity	100.0%; Pred. No. 0.21;
Matches 22; Conservative	0; Mismatches 0; Indels 0; Gaps 0
1 TGACTGTGAACGTCGAGATGA 22	
1 TGACTGTGAACGTCGAGATGA 22	
RESULT 7	
ID AAA38072	
XX AAA38072 standard; DNA; 22 BP.	
XX AAA38072;	

DT		24-AUG-2000	(first entry)
XX			
DE	Immunostimulatory sequence (ISS) #7.		
XX			
KW	Immunostimulatory sequence; ISS; immunomodulator; glycoprotein 120;		
KM	gp120; human immunodeficiency virus; HIV; immune response; infection;		
KV	development; ss.		
XX			
OS	Synthetic.		
XX			
FH	Key	Location/Qualifiers	
FT	modified_base	11	/tag= a
FT			/mod_base= OTHER
FT	modified_base	15	/note= "5-Bromocytosine"
FT			/tag= b
FT			/mod_base= OTHER
FT			/note= "5-Bromocytosine"
XX			
PN	WO200021556-A1.		
XX			
PD	20-APR-2000.		
XX			
PF	08-OCT-1999;	99WO-US023577.	
XX			
PR	09-OCT-1998;	98US-0103733P.	
PR	07-OCT-1999;	99US-00415186.	
XX			
PA	(DYNA-) DYNAMAX TECHNOLOGIES CORP.		
XX			
PI	Tighe H, Raz E, Schwartz D, Takabayashi K,		
XX			
DR	WPI; 2000-317846/27.		
XX			
PT	Anti-HIV composition comprises immunostimulatory polynucleotides and HIV		
PT	glycoprotein gp120 useful for modulating, stimulating an immune response		
PT	against HIV in an HIV infected individual.		
XX			
PS	Disclosure; Page 17; 65pp; English.		
XX			
CC	The present invention relates to an immunostimulatory composition		
CC	comprising a human immunodeficiency virus (HIV) antigen, and an		
CC	immunomodulatory polynucleotide comprising an immunostimulatory sequence		
CC	(ISS). This sequence represents an ISS that can be used in the		
CC	composition. An immunostimulatory composition which comprises a gp120		
CC	conjugated to an immunomodulatory polynucleotide, or is proximately		
CC	associated to it and not conjugated, is used for modulating or		
CC	stimulating a specific immune response against gp120 in an individual by		
CC	producing anti-gp120 antibodies or gp120 specific cytotoxic T cells. It		
CC	is also used for suppressing or delaying development of HIV infection in		
CC	an individual infected with HIV or an individual at risk of infection		
CC	with HIV, respectively. It is also used for treating an individual		
CC	infected with HIV in need of immune modulation		
XX			
SQ	Sequence 22 BP; 6 A; 3 C; 7 G; 6 T; 0 U; 0 Other;		
	Query Match	100.0%; Score 22; DB 3; Length 22;	
	Best Local Similarity	100.0%; Pred. No. 0.21;	
	Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;		
OY	1 TGACTGTGGAACGTTGGAGATTA 22		
Ds	1 TGACTGTGGAACGTTGGAGATTA 22		
	RESULT 8		
	AAA38071 ID AAA38071 standard; DNA; 22 BP.		
XX	AAA38071;		
AC			
XX			
XX	24-AUG-2000 (first entry)		
XT			

```
XX Immunostimulatory sequence (ISS) #7.
DE
DE Immunostimulatory sequence; ISS; immunomodulator; glycoprotein 120;
KW gp120; human immunodeficiency virus; HIV; immune response; infection;
KW development; ss.
XX
OS Synthetic.
XX
XX Key Location/Qualifiers
FH modified_base 11
FT /tag= a
FT /mod_base= OTHER
FT /note= "5-Bromocytosine"
XX
XX WO200021556-A1.
XX
XX 20-APR-2000.
XX
XX 08-OCT-1999; 99WO-US023677.
XX
XX 09-OCT-1998; 98US-0103733P.
XX
XX 07-OCT-1999; 99US-00415186.
XX
XX (DYNA-) DYNAVAX TECHNOLOGIES CORP.
XX
XX Tighe H, Raz E, Schwartz D, Takabayashi K.
XX
XX WPI; 2000-317846/27.
XX
XX Anti-HIV composition comprises immunostimulatory polynucleotides and HIV
PT glycoprotein gp120 useful for modulating, stimulating an immune response
PT against HIV in an HIV infected individual.
XX
XX
XX Disclosure; Page 17; 65pp; English.
XX
XX The present invention relates to an immunostimulatory composition
CC comprising a human immunodeficiency virus (HIV) antigen, and an
CC immunomodulatory polynucleotide comprising an immunostimulatory sequence
CC (ISS). This sequence represents an ISS that can be used in the
CC composition. An immunostimulatory composition which comprises a gp120
CC conjugated to an immunomodulatory polynucleotide, or is proximately
CC associated to it and not conjugated, is used for modulating or
CC stimulating a specific immune response against gp120 in an individual by
CC producing anti-gp120 antibodies or gp120 specific cytotoxic T cells. It
CC is also used for suppressing or delaying development of HIV infection in
CC an individual infected with HIV or an individual at risk of infection
CC with HIV, respectively. It is also used for treating an individual
CC infected with HIV in need of immune modulation
XX
XX
SQ Sequence 22 BP; 6 A; 3 C; 7 G; 6 T; 0 U; 0 Other;
QY
QY Query Match 100.0%; Score 22; DB 3; Length 22;
QY Best Local Similarity 100.0%; Pred. No. 0.21;
QY Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
Db
Db 1 TGACGTGAAACGTTGAGATGA 22
1 TGACGTGAAACGTTGAGATGA 22
RESULT 9
AAA38065
ID AAA38065 standard; DNA; 22 BP.
XX
XX AAA38065;
XX
XX 24-AUG-2000 (first entry)
XX
XX Immunostimulatory sequence (ISS) #1.
XX
XX Immunostimulatory sequence; ISS; immunomodulator; glycoprotein 120;
KW gp120; human immunodeficiency virus; HIV; immune response; infection;
```

```
KW development; ss.
XX
XX Synthetic.
XX
XX WO200021556-A1.
XX
XX 20-APR-2000.
XX
XX 08-OCT-1999; 99WO-US023677.
XX
XX 09-OCT-1998; 98US-0103733P.
XX
XX 07-OCT-1999; 99US-00415186.
XX
XX (DYNA-) DYNAVAX TECHNOLOGIES CORP.
XX
XX Tighe H, Raz E, Schwartz D, Takabayashi K.
XX
XX WPI; 2000-317846/27.
XX
XX Anti-HIV composition comprises immunostimulatory polynucleotides and HIV
PT glycoprotein gp120 useful for modulating, stimulating an immune response
PT against HIV in an HIV infected individual.
XX
XX
XX Claim 3; Page 16; 65pp; English.
XX
XX The present invention relates to an immunostimulatory composition
CC comprising a human immunodeficiency virus (HIV) antigen, and an
CC immunomodulatory polynucleotide comprising an immunostimulatory sequence
CC (ISS). This sequence represents an ISS that can be used in the
CC composition. An immunostimulatory composition which comprises a gp120
CC conjugated to an immunomodulatory polynucleotide, or is proximately
CC associated to it and not conjugated, is used for modulating or
CC stimulating a specific immune response against gp120 in an individual by
CC producing anti-gp120 antibodies or gp120 specific cytotoxic T cells. It
CC is also used for suppressing or delaying development of HIV infection in
CC an individual infected with HIV or an individual at risk of infection
CC with HIV, respectively. It is also used for treating an individual
CC infected with HIV in need of immune modulation
XX
XX
SQ Sequence 22 BP; 6 A; 3 C; 7 G; 6 T; 0 U; 0 Other;
QY
QY Query Match 100.0%; Score 22; DB 3; Length 22;
QY Best Local Similarity 100.0%; Pred. No. 0.21;
QY Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
Db
Db 1 TGACGTGAAACGTTGAGATGA 22
1 TGACGTGAAACGTTGAGATGA 22
RESULT 10
AAA90458
ID AAA90458 standard; DNA; 22 BP.
XX
XX AAA90458;
XX
XX 10-JAN-2001 (first entry)
XX
XX CpG adjuvant oligonucleotide, SEQ ID NO:19.
XX
XX CpG oligonucleotide; CpG motif; adjuvant; microdroplet emulsion;
KW microemulsion; adsorbent microparticle; vaccine; Th1 immune response;
KW viral infection; bacterial infection; parasitic infection; HCV; HBV;
KW hepatitis C virus; hepatitis B virus; herpes simplex virus; HSV; HIV;
KW human immunodeficiency virus; cytomegalovirus; CMV; influenza virus;
KW rabies virus; cholera; diphtheria; tetanus; pertussis;
KW Helicobacter pylori; Haemophilus influenzae; malaria; ss.
XX
XX Synthetic.
XX
XX WO200050006-A2.
XX
XX 31-AUG-2000.
```

XX 09-FEB-2000; 2000WO-US003331.
XX
XX 26-FEB-1999; 99US-0121858P.
XX 29-JUL-1999; 99US-0146391P.
XX 28-OCT-1999; 99US-0161997P.
XX
XX (CHIR) CHIRON CORP.
XX
XX O'hagan D, Oct GS, Donnelly J, Kazzaz J, Ugozoli M, Singh M,
XX Barackman J,
XX
XX WPI; 2000-587123/55.
XX
XX Microemulsion having an adsorbent surface comprising a microdroplet
XX emulsion consisting of a metabolizable oil and an emulsifying agent which
XX is a detergent, useful as a vaccine to treat bacterial, viral, and
XX parasitic infection.
XX
XX Claim 17; Page 40; 95pp; English.
XX
XX The invention relates to a microdroplet emulsion (microemulsion) with an
XX adsorbent surface, and which comprises a metabolizable oil and an
XX emulsifying agent (a detergent). It also relates to a composition
XX comprising the microemulsion and a microparticle with an adsorbent
XX surface, where the microparticle comprises a polymer selected from a
XX poly(alpha-hydroxy acid), a polyhydroxy butyric acid, a polycaprolactone,
XX a polyorthoester, a polyanhydride, and a polycyanoacrylate, and a second
XX detergent. The surface of the microparticles efficiently adsorb
XX biologically active macromolecules such as DNA, polypeptides, antigens,
XX hormones, pharmaceuticals, enzymes, mediators of transcription or
XX translation, metabolic intermediates and adjuvants. Additionally, a
XX second biologically active molecule may be encapsulated within the
XX microparticle. The microemulsion can be used in methods of immunising a
XX host animal, particularly a human, against a viral, bacterial or
XX parasitic infection, and in methods of increasing a Th1 immune response.
XX The microemulsions (having the appropriate antigens adsorbed) may be
XX particularly used as vaccines for hepatitis C virus (HCV), hepatitis B
XX virus (HBV), herpes simplex virus (HSV), human immunodeficiency virus
XX (HIV), cytomegalovirus (CMV), influenza virus, and rabies virus; the
XX bacteria which cause cholera, diphtheria, tetanus and pertussis;
XX Helicobacter pylori and Haemophilus influenzae; and malaria-causing
XX parasites. Sequences AA0447-AA0467 represent Th1 lymphocyte stimulating
XX oligonucleotides containing at least one CpG motif which are claimed for
XX use as adjuvants in the compositions of the invention
XX
XX
SQ Sequence 22 BP; 6 A; 3 C; 7 G; 6 T; 0 U; 0 Other;

Query Match 100.0%; Score 22; DB 3; Length 22;
Best Local Similarity 100.0%; Pred. No. 0.21;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 TGACTGTGAACGTTGAGATGA 22
| | | | | | | | | | | | | | | | | | | | | |
Db 1 TGACTGTGAACGTTGAGATGA 22

RESULT 11
AAA96253
ID AAA96253 standard; DNA; 22 BP.
XX
XX AAA96253;
XX
XX
XX 08-FEB-2001 (first entry)
XX
XX Sequence of a stabilised oligonucleotide with antitumour activity.
XX
XX Antitumour; immunostimulatory oligonucleotide; tumour; anaplasia;
XX glioblastoma; medullablastoma; neuroblastoma; melanoma; carcinoma; ss.
XX
XX Synthetic.
XX
XX WO200056342-A2.
XX
XX
XX

XX 28-SEP-2000.
XX
XX
XX 17-MAR-2000; 2000WO-FR000676.
XX
XX 19-MAR-1999; 99FR-00003433.
XX
XX (ASSI-) ASSISTANCE PUBLIQUE HOPITAUX PARIS.
XX (INRM) INST NAT SANTE & RECH MEDICALE.
XX
XX Carpentier A;
XX
XX WPI; 2000-602192/57.
XX
XX
XX Use of stabilized oligonucleotides as antitumor agents, particularly
XX against nervous system tumors, have optimal activity and are not toxic.
XX
XX Example 2; Page 16; 57pp; French.
XX
XX The present sequence represents a stabilised oligonucleotide which has
XX antitumour activity. The oligonucleotide comprises an octamer motif of
XX the type 5'-purine-purine-CG-pyrimidine-pyrimidine-X-X-3', where the pair
XX X-X is AT, AA, CT or TT. The oligonucleotides are immunostimulatory, and
XX are not toxic. They may be adapted for use in animals or humans. The
XX stabilised oligonucleotides are used for treating tumours, of any type
XX and any degree of anaplasia, particularly human tumours in the peripheral
XX or central nervous systems, specifically glioblastomas, medullablastomas,
XX neuroblastomas, melanomas or carcinomas
XX
XX
SQ Sequence 22 BP; 6 A; 3 C; 7 G; 6 T; 0 U; 0 Other;

Query Match 100.0%; Score 22; DB 3; Length 22;
Best Local Similarity 100.0%; Pred. No. 0.21;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 TGACTGTGAACGTTGAGATGA 22
| | | | | | | | | | | | | | | | | | | | | |
Db 1 TGACTGTGAACGTTGAGATGA 22

RESULT 12
AA255876
ID AA255876 standard; DNA; 22 BP.
XX
XX AA255876;
XX
XX
XX 10-APR-2000 (first entry)
XX
XX
XX Immunomodulatory oligonucleotide SEQ ID NO: 1.
XX
XX Immunomodulation; immunostimulatory sequence; adjuvant;
XX Th1 immune response; cytotoxic T-cell; cytokine; cancer; allergy; asthma;
XX immunosuppression; ss.
XX
XX Mus musculus.
XX
XX Synthetic.
XX
XX
XX Key Location/Qualifiers
XX modified_base 1..22 FT
XX FT /tag= a
XX FT /note= "Phosphorochiccate linkages"
XX FT misc_feature 9..16 FT
XX FT /tag= b
XX FT /note= "Immunostimulatory sequence (ISS)"
XX
XX
XX WO9962923-A2.
XX
XX 09-DEC-1999.
XX
XX 04-JUN-1999; 99WO-US012538.
XX
XX 05-JUN-1998; 98US-0088310P.
XX 01-JUN-1999; 99US-00324191.
XX
XX
XX

XX (DYNA-) DYNAXX TECHNOLOGIES CORP.
PA Schwartz D;
PI WPI; 2000-105687/09.
XX
XX
XX Novel immunomodulatory oligonucleotide used to induce a Th1-type immune
PT response, e.g. to tumor antigens.
PT
XX
XX Example 1; Page 35; 54pp; English.
PS
XX Sequences AA255876-255877 and AA255880-255886 represent immunomodulatory
CC oligonucleotides comprising an immunostimulatory sequence (ISS, e.g.,
CC AACGTC, AACGTT, AGCGTC, AGCGTT, GACGTC, GACGTT, GCGGTC, AACGTTCC
CC and GACGTTCC). The invention relates to oligonucleotides comprising one
CC or more ISSs, where the ISS comprises at least one modified cytosine with
CC an electron-withdrawing moiety at position C-5 or C-6 of the base.
CC Sequences AA255877 and AA255880-255886 contain ISSs comprising at least
CC one bromocytosine, whereas sequence AA255876 contains an unmodified ISS.
CC The immunomodulatory oligonucleotides have an adjuvant-like effect; when
CC formulated with an antigen, the oligonucleotides stimulate production of
CC Th1-type cytokines, and induce a Th1-type immune response (activation of
CC cytotoxic T cells), while simultaneously downregulating the Th2-type
CC response. The Th1 response is particularly effective for control of
CC viruses and intracellular parasites. The immunomodulatory
CC oligonucleotides are used, particularly when formulated with an antigen
CC or a facilitator, for modulating immune responses. Such compositions may
CC be used in tumour therapy, in treatment of allergy (including asthma),
CC for inducing a vigorous cellular response (against a virus, bacterium,
CC fungus or protozoan), and also in contraceptive vaccines based on sperm
CC antigens
SQ Sequence 22 BP; 6 A; 3 C; 7 G; 6 T; 0 U; 0 Other;
QY
Query Match 100.0%; Score 22; DB 3; Length 22;
Best Local Similarity 100.0%; Pred. No. 0.21;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
Db 1 TGACTGTGAACGTTGAGATGA 22
1 TGACTGTGAACGTTGAGATGA 22
RESULT 13
AAC64051
ID AAC64051 standard; DNA; 22 BP.
XX
XX AAC64051;
XX
XX 15-FEB-2001 (first entry)
DT
XX
XX Immunostimulatory Cpg phosphorothioate oligodeoxynucleotide.
DE
XX Cpg oligodeoxynucleotide; phosphorothioate; immunostimulatory; ISS ODN;
KW enhanced antigen presentation; antigen-presenting cell; APC;
KW T-cell activation; tumour cell; tumour antigen; cancer immunotherapy;
KW vaccine; ss.
XX
XX Synthetic.
OS
XX
XX WO200062787-A1.
PN
XX
XX 26-OCT-2000.
PD
XX 11-APR-2000; 2000WO-US009664.
PF
XX 15-APR-1999; 99US-00292278.
PR
XX (REGC) UNIV CALIFORNIA.
PA Raz E, Martin-Orozco E;
PI
XX

DR WPI; 2000-679548/66.
XX
XX Enhancing antigen-presentation capabilities of T-cells for cancer
PT immunotherapy, by contacting cells with an immunostimulatory
PT oligonucleotide.
XX
XX
XX Example 1; Page 18; 42pp; English.
PS
XX The invention relates to a method of inducing activation of T-cells to
CC respond to an antigen, comprising contacting antigen-presenting cells
CC (APC) with an immunostimulatory oligodeoxynucleotide (ISS-ODN). The APCs
CC thus treated have enhanced antigen presenting capabilities compared to
CC antigen-activated APCs. APCs with enhanced antigen-presentation
CC capabilities then present the antigen to T-cells. The method is useful
CC for cancer immunotherapy. The ISS-ODN is used to enhance the tumour
CC antigen presenting capacity of tumour cells, thereby inducing T-cell
CC activation, and is therefore useful for treating tumours. Additionally,
CC tumour cells treated with an ISS-ODN ex vivo are useful as vaccines. ISS-
CC ODN treated APCs are induced to take up antigen through upregulation of
CC Fc-receptor expression, to present antigen through upregulation of major
CC histocompatibility complex (MHC) Class I and II expression and CD1d
CC expression, to produce co-stimulatory factors (B7 and CD40), to provide
CC cell-to-cell adhesion through upregulation of intercellular adhesion
CC molecule (ICAM) expression, and to increase Th1 stimulatory cytokine
CC production, all at levels greater than that achieved through contact of
CC APC with antigen alone. The present sequence represents a
CC phosphorothioate Cpg ISS-ODN used in the exemplifications of the
CC invention
SQ Sequence 22 BP; 6 A; 3 C; 7 G; 6 T; 0 U; 0 Other;
QY
Query Match 100.0%; Score 22; DB 3; Length 22;
Best Local Similarity 100.0%; Pred. No. 0.21;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
Db 1 TGACTGTGAACGTTGAGATGA 22
1 TGACTGTGAACGTTGAGATGA 22
RESULT 14
AAH20403
ID AAH20403 standard; DNA; 22 BP.
XX
XX AAH20403;
XX
XX 03-AUG-2001 (first entry)
DT
XX
XX Cpg motif containing oligonucleotide SEQ ID #21.
DE
XX
XX Immune system stimulator; Cpg motif; Cpg receptor; Cpg-R; antibacterial;
KW immune response; vaccine adjuvant; tumour immunotherapy; allergy;
KW anti-inflammatory; cystic fibrosis; sepsis; heart disease; chlamydia;
KW inflammatory bowel disease; arthritis; multiple sclerosis; ss.
XX
XX Unidentified.
OS
XX
XX Key Location/Qualifiers
FH modified_base 1..22
FT /*tag= a
FT /mod_base= OTHER
FT /note= "Phosphorothioate internucleoside linkages"
XX
XX WO200132877-A2.
PN
XX
XX 10-MAY-2001.
PD
XX 01-NOV-2000; 2000WO-US041735.
PF
XX 02-NOV-1999; 99US-0163157P.
PR
XX 24-NOV-1999; 99US-0167389P.
PR
XX (CHIR) CHIRON CORP.
PA

XX Mackichan ML;
PI
XX
DR WPI; 2001-343486/36.
XX
PT Novel Cpg receptor and nucleic acid molecule encoding the receptor, for
PT modulating immune response and for identifying compounds of therapeutic
PT use which bind and/or modulate the activity of the receptor.
XX
PS Example 1; Page 14; 41pp; English.
XX
CC Unmethylated CG dinucleotide sequences are commonly found in bacterial
CC DNA, and have been found to stimulate the innate immune system. Natural
CC killer and T cells are activated by exposure to oligonucleotides
CC containing Cpg motifs. Oligonucleotides containing Cpg motifs can be used
CC as adjuvants in vaccines. The present invention relates to a Cpg
CC receptor. The Cpg receptor contains a Toll homology domain (THD). The
CC Toll receptor family are associated with responses to pathogens. Cpg
CC oligonucleotides may act as stimulators of various immune responses. The
CC Cpg receptor or cells expressing the receptor are useful for identifying
CC a compound which binds to or modulates an activity of the Cpg receptor.
CC The compounds are useful in e.g. vaccine adjuvants promoting cell-
CC mediated immune responses, antibacterials, (e.g. protection from listeria
CC infection), tumour immunotherapy, allergy treatment, (e.g. suppressing
CC IgE in human PMMC, shifting from Th2 to Th1) and as anti-inflammatory
CC agents (e.g. for use in cystic fibrosis, sepsis, heart disease,
CC chlamydia, inflammatory bowel disease, arthritis and multiple sclerosis).
CC The present sequence represents a Cpg motif containing oligonucleotide
CC used in examples demonstrating that Cpg oligonucleotides can activate the
CC MAPK pathways and NF-kappaB
XX
SQ Sequence 22 BP; 6 A; 3 C; 7 G; 6 T; 0 U; 0 Other;
XX
Query Match 100.0%; Score 22; DB 4; Length 22;
Best Local Similarity 100.0%; Pred. No. 0.21;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
XX
QY 1 TGACTGTGAACGTTGAGATGA 22
1 TGACTGTGAACGTTGAGATGA 22
Db
XX
RESULT 15
AAH43338
ID AAH43338 standard; DNA; 22 BP.
XX
AC AAH43338;
XX
DT 13-DEC-2001 (first entry)
XX
DE Immunomodulatory polynucleotide 1018.
XX
DE Immunomodulation; inflammation; gastrointestinal tract;
XX immunoregulation; Crohn's disease; inflammatory bowel disease;
XX ulcerative colitis; Crohn's disease; inflammatory bowel disease;
XX diarrhoea; rectal bleeding; weight loss; colon; weight; lesion; ss.
XX
XX Synthetic.
XX
XX OS
XX PN WO200162207-A2.
XX
PD 30-AUG-2001.
XX
PF 22-FEB-2001; 2001WO-US006034.
XX
PR 23-FEB-2000; 2000US-0184256P.
XX
PA (REGC) UNIV CALIFORNIA.
XX
PI Raz E, Rachmilewitz D;
XX
DR WPI; 2001-565393/63.
XX
PT Ameliorating gastrointestinal inflammation e.g. inflammatory bowel

PT disease involves administering an immunomodulatory nucleic acid.
XX
XX Claim 7; Page 28; 58pp; English.
XX
CC The sequences given in AAH43338-48 represent immunomodulatory
CC polynucleotides which may be used to ameliorate inflammation of the
CC gastrointestinal tract by administering a nucleic acid comprising one of
CC these sequences. These polynucleotides all comprise an immunomodulatory
CC nucleotide sequence of 5'-Cpg-3' (1). The nucleotides may be used for
CC ameliorating or reducing gastrointestinal inflammation e.g. chronic or
CC acute gastrointestinal inflammation, ulcerative colitis, Crohn's disease
CC caused by inflammatory bowel disease; diarrhoea, rectal bleeding, weight
CC loss; to reduce colon weight and colon lesions; to reduce a colonic
CC inflammation. The immunomodulatory polynucleotides treat inflammatory
CC bowel disease satisfactorily and effectively and have little or no
CC toxicity even at a high dosage of 5000 micro-g. They also reduce the
CC risk of colonic cancer by treating ulcerative colitis
XX
SQ Sequence 22 BP; 6 A; 3 C; 7 G; 6 T; 0 U; 0 Other;
XX
Query Match 100.0%; Score 22; DB 4; Length 22;
Best Local Similarity 100.0%; Pred. No. 0.21;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
XX
QY 1 TGACTGTGAACGTTGAGATGA 22
1 TGACTGTGAACGTTGAGATGA 22
Db
XX
RESULT 16
AAH73439
ID AAH73439 standard; DNA; 22 BP.
XX
AC AAH73439;
XX
DT 01-OCT-2001 (first entry)
XX
DE Immunomodulatory nucleic acid.
XX
KW G3PDH gene; immunomodulatory oligonucleotide; infection; mycobacterium;
XX intracellular pathogen; anti-pathogenic; ss.
XX
OS Unidentified.
XX
XX PN WO200155341-A2.
XX
PD 02-AUG-2001.
XX
PF 30-JAN-2001; 2001WO-US003029.
XX
PR 31-JAN-2000; 2000US-0179353P.
XX
PA (REGC) UNIV CALIFORNIA.
XX
PI Raz E, Kornbluth R, Catanzaro A, Hayashi T, Carson DA;
XX
XX WPI; 2001-483234/52.
XX
DR
XX
PT Treating infection of intracellular pathogen e.g., Mycobacterium, in a
PT subject, involves administering immunomodulatory nucleic acid molecule to
PT inhibit intracellular replication of intracellular pathogen.
XX
PS Example; Page 26; 54pp; English.
XX
CC The present invention describes a method of treating an infection caused
CC by an intracellular pathogen, involving administering to the patient an
CC immunomodulatory nucleic acid and an anti-pathogenic agent. This is
CC particularly useful in the treatment of mycobacterial infections. The
CC present sequence is an immunomodulatory nucleic acid described in the
CC exemplification of the invention
XX
SQ Sequence 22 BP; 6 A; 3 C; 7 G; 6 T; 0 U; 0 Other;

Query Match 100.0%; Score 22; DB 4; Length 22;
Best Local Similarity 100.0%; Pred. No. 0.21;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 TGAAGTGAACGTTGAGATGA 22
DB 1 TGAAGTGAACGTTGAGATGA 22

RESULT 17

AAH75992
ID AAH75992 standard; DNA; 22 BP.

AC AAH75992;

DT 15-NOV-2001 (first entry)

DE Immunomodulatory oligonucleotide #1.

KW Immunomodulatory; immunostimulatory; Th1-type immune response;

KW Th2-type immune response; interferon; idiopathic pulmonary fibrosis;

OS Synthetic.

FT Key Location/Qualifiers
modified_base 1..22

FT /tag= a

FT /mod_base= OTHER

FT /note= "phosphorothioate oligonucleotide"

PN WO200168143-A2.

PD 20-SEP-2001.

PF 12-MAR-2001; 2001WO-US07843.

PR 10-MAR-2000; 2000US-018557P.

PR 09-MAR-2001; 2001US-00802376.

XX (DYNA-) DYNAVAX TECHNOLOGIES CORP.

XX Van Nest G; Tuck S;

XX WPI; 2001-582389/65.

XX Immunomodulatory polynucleotide/microcarrier complexes comprise an

XX immunostimulatory sequence containing polynucleotide linked to a

XX nonbiodegradable microcarrier.

XX Claim 11; Page 49; 61pp; English.

XX The present invention relates to immunomodulatory polynucleotide/

XX microcarrier complexes. The complexes comprise an immunostimulatory

XX sequence (ISS), e.g. the present sequence, linked to a nonbiodegradable

XX microcarrier provided that if the microcarrier is gold, latex or magnetic

XX then the linkage is not biotin/avidin. The complex is useful for

XX modulating an immune response (especially stimulating a Th1-type response

XX or suppressing a Th2-type response), increasing interferon-gamma

XX (especially in a patient suffering from idiopathic pulmonary fibrosis),

XX increasing interferon-alpha (especially in patients suffering from viral

XX infection) and reducing levels of IGE

RESULT 18
AAE77040
ID AAE77040 standard; DNA; 22 BP.
AC AAE77040;
DT 15-MAY-2001 (first entry)
DE Immunomodulatory DNA.
KW Modulate; immune; antigen; immunostimulatory; ds.
OS Synthetic.
PN WO200112223-A2.
PD 22-FEB-2001.
PF 18-AUG-2000; 2000WO-US022835.
PR 19-AUG-1999; 99US-0149768P.
XX (DYNA-) DYNAVAX TECHNOLOGIES CORP.
XX Van Nest G;
XX WPI; 2001-211136/21.
DR 12-MAR-2001; 2001US-018557P.
PT Modulating immune response to a second antigen in humans involves

PT administering an immunostimulatory polynucleotide comprising an

PT immunostimulatory sequence and a first antigen.

PS Claim 31; Page 15; 63pp; English.

XX The present invention relates to modulating an immune response to a

XX second antigen in an individual, involving administering to the

XX individual an immunomodulatory polynucleotide comprising an

XX immunostimulatory sequence (ISS) and a first antigen

XX Sequence 22 BP; 6 A; 3 C; 7 G; 6 T; 0 U; 0 Other;

Query Match 100.0%; Score 22; DB 4; Length 22;
Best Local Similarity 100.0%; Pred. No. 0.21;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 TGAAGTGAACGTTGAGATGA 22
DB 1 TGAAGTGAACGTTGAGATGA 22

RESULT 19

AAE29800
ID AAE29800 standard; DNA; 22 BP.

AC AAE29800;

DT 12-APR-2001 (first entry)

DE Cholera toxin immunostimulatory nucleotide sequence.

KW Immunostimulatory nucleotide sequence; immune response; cancer;

KW antibody production; IFN-gamma release; CTL activity; Th1 response;

OS Unidentified.

PN WO200102007-A1.

PD 11-JAN-2001.

PF 30-JUN-2000; 2000WO-US018229.

PR 02-JUL-1999; 99US-0034734J.
XX
PA (REGC) UNIV CALIFORNIA.
XX
PI Raz E, Kobayashi H;
XX WPI; 2001-138066/14.
DR
XX Enhancing immune response against pathogen or antigen associated with
PT infectious diseases, an allergen or cancer, involves administering
PT immunostimulatory nucleotide sequence prior to antigen exposure.
XX
PS Example 1; Page 14; 47pp; English.
XX
CC The present invention describes a method for enhancing an immune response
CC to a substance, comprising administering an immunostimulatory nucleotide
CC sequence to a subject prior to exposure to the substance. This can be
CC used to enhance antibody production, IFNgamma release, CTL activity and
CC Th1 related effects. The method can be used in the prevention and
CC treatment of allergies, cancer and infections
CC
SQ Sequence 22 BP; 6 A; 3 C; 7 G; 6 T; 0 U; 0 Other;
XX
Query Match 100.0%; Score 22; DB 4; Length 22;
Best Local Similarity 100.0%; Pred. No. 0.21;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
OY 1 TGACTGTGAACGTTGAGATGA 22
1 TGAAGTGAACGTTGAGATGA 22
Db 1 TGACTGTGAACGTTGAGATGA 22
RESULT 20
AAH44109
ID AAH44109 standard; DNA; 22 BP.
XX
AC AAH44109;
XX
DT 12-SEP-2001 (first entry)
XX
DE 5' terminal NH2 group and a 3' terminal rhodamine moiety oligonucleotide.
XX
KW Peptide nucleic acid; intracellular protein delivery; cationic lipid;
KM PNA; ss.
XX
OS Synthetic.
XX
FH Key Location/Qualifiers
FT modified_base 1
FT /tag= a
FT /mod_base= OTHER
FT /note= "T has been modified at the 5' terminal with an
FT NH2 group"
FT modified_base 22
FT /tag= b
FT /mod_base= OTHER
FT /note= "A has been modified at the 3' terminal with
FT rhodamine"
PN WO200143778-A1.
XX
PD 21-JUN-2001.
XX
PF 15-DEC-2000; 2000WO-US033969.
XX
PR 17-DEC-1999; 99US-0172441P.
XX
PA (GENE-) GENE THERAPY SYSTEMS INC.
XX
PI Felgner PL, Zelpatti O;
XX
DR WPI; 2001-398080/42.
XX

PT Composition useful for intracellular delivery of a protein, comprises a
PT protein in operative association with a cationic intracellular delivery
PT vehicle comprising a cationic lipid, which is adapted to fuse with a cell
PT membrane.
XX
PS Example 3; Page 18; 33pp; English.
XX
CC The present invention describes a composition (I) for intracellular
CC delivery of a protein, comprising a protein in operative association with
CC a cationic intracellular delivery vehicle comprising a cationic lipid,
CC where the intracellular delivery vehicle is adapted to fuse with a cell
CC membrane, therefore effecting intracellular delivery of the associated
CC protein. also described is a method for delivering a protein to a cell
CC involving providing the protein associated with a cationic lipid in such
CC a manner so as to form an intracellular delivery composition, and
CC contacting the delivery composition with a cell membrane of a cell, such
CC that the cationic lipid forms an association with a cell membrane and
CC delivers the protein into the cell. (I) is useful in the preparation of a
CC medicament for intracellular delivery of a therapeutic or prophylactic
CC protein. (I) is useful for delivering antibodies to intracellular
CC proteins to neutralise their activity, and to introduce therapeutically
CC useful, proteins, peptides or small molecules. (I) is useful for the in
CC vitro or in vivo delivery of antibodies or peptides which block the
CC function of specific intracellular proteins and affect cellular
CC metabolism, cell viability or virus replication. (I) is useful for
CC delivering any protein of interest, including therapeutically useful
CC proteins (e.g. tumour suppressor proteins, cystic fibrosis transmembrane
CC regulator (CFTR), adenosine deaminase (ADA), hexosaminidase A, peptides,
CC wild type protein counterparts of mutant proteins and cell surface
CC receptors) such as those for cytokines (e.g., interleukins, interferon,
CC colony stimulating factors) and peptide hormones. The present sequence
CC represents a peptide nucleic acid (PNA) oligonucleotide which is used in
CC an example from the present invention for intracellular delivery of
CC proteins
XX
SQ Sequence 22 BP; 6 A; 3 C; 7 G; 6 T; 0 U; 0 Other;
XX
Query Match 100.0%; Score 22; DB 4; Length 22;
Best Local Similarity 100.0%; Pred. No. 0.21;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
OY 1 TGACTGTGAACGTTGAGATGA 22
1 TGAAGTGAACGTTGAGATGA 22
Db 1 TGACTGTGAACGTTGAGATGA 22
RESULT 21
AAC82107
ID AAC82107 standard; DNA; 22 BP.
XX
AC AAC82107;
XX
DT 07-MAR-2001 (first entry)
XX
DE Oligonucleotide ODNOCT DNA SEQ ID NO 2.
XX
KW Immunogenic; human immunodeficiency virus; immunostimulatory sequence;
KW ISS; beta-chemokine; anti-HIV; AIDS; Th1 immune response; primer;
KW HIV-specific cytotoxic T lymphocyte response; phosphorothioate; ss.
XX
OS Synthetic.
XX
PN WO200067787-A2.
XX
PD 16-NOV-2000.
XX
PF 05-MAY-2000; 2000WO-US012495.
XX
PR 06-MAY-1999; 99US-0132762P.
XX
PR 25-AUG-1999; 99US-0150676P.
XX
PA (IMMU-) IMMUNE RESPONSE CORP.
XX

XX	
SQ	Sequence 22 BP; 6 A; 3 C; 7 G; 6 T; 0 U; 0 Other;

Query Match	100.0%;	Score 22;	DB 4;	Length 22;
Best Local Similarity	100.0%;	Pred. No. 0.21;		
Matches	22;	Conservative	0;	Mismatches 0;
			Indels	0;
			Gaps	0;

```
QY      1 TGA CTGTG AAC GTT CGAG ATGA   22  
        ||| |  
Db      1 TGACTGTGAACGTTCCAGATGA    22
```

RESULT 24
AAH41573
ID AAH41573 standard; DNA; 22 BP.

AC AAH41573;

DT 24-AUG-2001 (first entry)

DE Immunostimulatory sequence (ISS) SEQ ID NO:1.1.

KM Immunostimulatory sequence; ISS; immunomodulatory; immune response;
 KW antigen; antiallergic; modulation; Th1 lymphocyte stimulation; allergy#
 KW Th1-associated cytokine; Th2 lymphocyte suppression; cytokine; ss.

OS Synthetic.

PN WO200135991-A2.

PD 25-MAY-2001

PF 15-NOV-2000; 2000WO-US031385.

PR 15-NOV-1999; 99US-0165467P.

XX

2000

XX

4
 3
 2
 1

PT Populations of conjugate molecules comprising polynucleotide
PT immunostimulatory sequences polynucleotides and antigens, useful for
PT controlling immune responses.

PS Example 1; Page 30; 97pp; English.

The present invention describes immunomodulatory populations (I) and (II) of conjugate molecules (CMs) comprising immunostimulatory sequences (ISS) of polynucleotides and antigens. The extent of conjugation affects the immunological properties (e.g. the extent of antigen-specific antibody formation, including Th1-associated antibody formation) so the conjugates are used for altering the type and extent of immune response. (I) and (II) have immunomodulatory, immunosuppressive and anti-allergic activities, and can be used in the modulation of immune responses via the stimulation of Th1 lymphocytes and Th1-associated cytokines, and suppression of Th2 lymphocytes and cytokines. The populations (I) and (II) of conjugate molecules may be used for modulating immune responses in individuals e.g. for the treatment of an allergic condition. (I) and (II) may be used to modulate immune responses and therefore prevent potentially harmful reactions to antigens. The present sequence represents an ISS polynucleotide which is used in the exemplification of the present invention

Sequence 22 BP; 6 A; 3 C; 7 G; 6 T; 0 U; 0 Other

Query Match	100.0%;	Score 22;	DB 5;	Length 22;
Best Local Similarity	100.0%;	Pred. No. 0.21;		
Matches 22;	Conservative 0;	Mismatches 0;	Indels 0;	Gaps 0

QY 1 TGA CTGTGAACGTTCCGAGATGA 22

Db 1 TGA CTGTGAACGTT CGAGATGA 22

```

RESULT 25
AAS14664
ID AAS14664 standard; DNA; 22 BP.

```

AC AAS14664;

DT 18-DEC-2001 (first entry)

DE Immunostimulatory sequence, ISS #1

KM Immunostimulatory sequence, ISS; ds, antiviral; immunogen;
KM respiratory syncytial virus, RSV; influenza virus, rhinovirus;
KM adenovirus; measles virus; mumps virus; parainfluenza virus;
KM rubella virus; poxvirus; parvovirus; hantavirus; varicella virus

OS Respiratory syncytial virus
OS Synthetic.

FM	Key	Location/Qualifiers
FT	modified_base	1..22
FT		/*tag= a
FT		/label= OTHER
FT		/note="Phosphorochiolate Backbone"

PN WO200168116-A2.

PD 20-SEP-2001

PF 12-MAR-2001; 2001WO-US007839.

PR 10-MAR-2000; 2000US-0188583P

XX

XX

XX

XX

PT Suppressing a respiratory syncytial virus infection by administering an PT immunostimulatory sequence at the site of infection is useful to prevent PT and treat lower respiratory tract viral infections.

PS Claim 5; Page 37; 40pp; English.

CC The invention relates to suppressing a respiratory syncytial virus (RSV)
CC infection in an exposed individual, comprising administering a
CC polynucleotide comprising an immunostimulatory sequence (ISS) comprising
CC the sequence 5'-C'-G-3', where an RSV antigen is not administered. The
CC invention is used to prevent and treat respiratory syncytial virus
CC infection of the lower respiratory tract and other viruses including
CC influenza virus, rhinovirus, adenovirus, measles virus, mumps virus,
CC parainfluenza virus, rubella virus, poxvirus, parvovirus, hantavirus and
CC varicella virus. A kit for carrying out the administration is also
CC included. Unlike the prior art antiviral agent ribavirin, which is a
CC potential teratogen, the invention provides a treatment which does not
CC carry unacceptable side effects. Other prior art medicaments treat the
CC symptoms only, whilst the invention treats the infection. The present
CC sequence is an ISS of the invention

Sequence 22 BP; 6 A; 3 C; 7 G; 6 T; 0 U; 0 Other;

Query Match	100.0%	Score 22	DB 5	Length 22
Best Local Similarity	100.0%	Pred. No. 0.21		
Matches 22	0	Mismatches	0	Gaps 0

QY 1 TGA CTGTGA CCGTTCGAGATGA 2:

Db 1 TGA CTGTGAACGTT CGAGATGA 2:

RESULT 26
 ABQ78627
 ID ABQ78627 standard; DNA; 22 BP.
 XX
 AC ABQ78627;
 XX
 DT 25-NOV-2002 (first entry)
 XX
 DE ISS enhancing HIV-specific Th1 cytokine and humoral responses.
 XX
 KW Immunostimulatory sequence; ISS; Th1 cytokine response; humoral response;
 KW HIV; beta-chemokine; immunisation; AIDS; ss.
 XX
 OS Unidentified.
 XX
 PN WO200258726-A1.
 XX
 PD 01-AUG-2002.
 XX
 PF 24-JAN-2002; 2002WO-US002077.
 XX
 PR 26-JAN-2001; 2001US-0264476P.
 XX
 PA (IMMU-) IMMUNE RESPONSE CORP.
 XX
 PI Mose RB, Carlo DJ;
 XX
 DR WPI; 2002-643331/69.
 XX
 PT Treating an HIV-infected individual comprises treatment with anti-
 PT retroviral compound and immunization with an HIV immunogenic composition
 PT with structured cycles of anti-retroviral treatment and withdrawal from
 PT treatment.
 XX
 PS Disclosure; Page 15; 31pp; English.
 XX
 CC The present sequence represents an exemplary immunostimulatory sequence
 CC (ISS) which enhances HIV-specific Th1 cytokine and humoral responses, and
 CC also enhances both non-specific and HIV-specific beta-chemokine
 CC production. ISSs can be included in HIV immunogenic compositions of the
 CC invention. The specification describes a method for treating an HIV-
 CC infected individual, which comprises combining immunisation with an anti-
 CC retroviral compound, an HIV immunogenic composition with structured
 CC cycles of anti-retroviral treatment and withdrawal from treatment. The
 CC advantages of the method of the invention include a delay in the rebound
 CC to an unacceptably high viral load; a more rapid or sustained increase in
 CC HIV-specific CD4 T cell counts; a reduction or delay in the development
 CC of AIDS symptoms, including AIDS-related opportunistic infections; and a
 CC higher degree of patient compliance with treatment and fewer toxic side
 CC effects associated with long-term anti-retroviral drug treatment. The
 CC method is useful for treating an HIV-infected individual
 CC
 SQ Sequence 22 BP; 6 A; 3 C; 7 G; 6 T; 0 U; 0 Other;
 XX
 XX
 Query Match 100.0%; Score 22; DB 6; Length 22;
 Best Local Similarity 100.0%; Pred. No. 0.21;
 Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
 QY 1 TGACTGTGAACGTTGAGATGA 22
 |||||
 DB 1 TGACTGTGAACGTTGAGATGA 22
 |||||
 RESULT 27
 AAS15592
 ID AAS15592 standard; DNA; 22 BP.
 XX
 AC AAS15592;
 XX
 DT 29-JAN-2002 (first entry)
 XX

DE Immunostimulatory oligonucleotide (ISS-ODN) #1.
 XX
 KW Immunostimulatory oligonucleotide; ISS-ODN; anti-allergic; antibacterial;
 KW virucide; fungicide; vaccine; immunogen; plant allergen; ragweed;
 KW grass pollen; food; latex; cat dander; cockroach; house dust mite;
 KW pathogenic parasite; ss.
 XX
 OS Synthetic.
 XX
 PN WO200176642-A1.
 XX
 PD 18-OCT-2001.
 XX
 PF 06-APR-2001; 2001WO-US011290.
 XX
 PR 07-APR-2000; 2000US-0195890P.
 XX
 PA (REGC) UNIV CALIFORNIA.
 XX
 PI Raz E, Takabayashi K, Nguyen M;
 XX
 DR WPI; 2002-025886/03.
 XX
 PT New polynucleotide vaccine for eliciting immune response to an antigen
 PT derived from a pathogen, plant or food, comprises antigen-encoding
 PT nucleic acid sequence derived from non-host species of first phylum or
 PT kingdom.
 XX
 PS Example 4; Page 43; 64pp; English.
 XX
 CC The invention relates to a polynucleotide vaccine (I) comprising a
 CC nucleic acid sequence encoding an antigen derived from a non-host species
 CC of a first phylum or first kingdom, where the nucleic acid sequence
 CC encoding the antigen is modified by deletion of a native signal sequence,
 CC and/or an immunomodulatory nucleic acid sequence. (I) is useful for
 CC modulating an immune response to an antigen, especially a plant (ragweed
 CC or grass pollen), food, latex, cat dander, cockroach or house dust mite
 CC allergen. (I) is also useful for eliciting an immune response to an
 CC antigen derived from a pathogen, such as bacterium, virus or a parasite.
 CC The vaccine is co-administered with an immunostimulatory nucleotide
 CC sequence which comprises an unmetlylated 5'-CG-3' nucleotide sequence.
 CC Antigens of pathogenic parasites include Plasmodium, Leishmania, fungal,
 CC yeast or other pathogens. The present sequence represents
 CC immunostimulatory oligonucleotide (ISS-ODN) #1 which is co-injected with
 CC (I) to amplify the immune response to the co-administered allergen
 CC
 SQ Sequence 22 BP; 6 A; 3 C; 7 G; 6 T; 0 U; 0 Other;
 XX
 XX
 Query Match 100.0%; Score 22; DB 6; Length 22;
 Best Local Similarity 100.0%; Pred. No. 0.21;
 Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
 QY 1 TGACTGTGAACGTTGAGATGA 22
 |||||
 DB 1 TGACTGTGAACGTTGAGATGA 22
 |||||
 RESULT 28
 ABA03833
 ID ABA03833 standard; DNA; 22 BP.
 XX
 AC ABA03833;
 XX
 DT 12-FEB-2002 (first entry)
 XX
 DE Immunostimulatory sequence (ISS) SEQ ID NO:1.
 XX
 KW Immunomodulatory polynucleotide/microcarrier complex; IMF/MC; IGE;
 KW immunomodulation; immunostimulation; phosphorocholate; immunomodulator;
 KW anti-allergic; antibacterial; antiprotocozal; antiparasitic; hepatotropic;
 KW nephrotropic; interferon-alpha stimulator; interferon-gamma stimulator;
 KW immunoglobulin E stimulator; immune response; IPF; scleroderma; malaria;
 KW idiopathic pulmonary fibrosis; cutaneous radiation-induced fibrosis;

KW hepatic fibrosis; renal fibrosis; infectious disease; leishmaniasis;
KW mycobacterial disease; toxoplasmosis; schistosomiasis; chlonorchiasis;
KW allergy; allergy-induced asthma; prophylactic vaccine; cancer; ss.
XX
OS Synthetic.
XX
FH Key Location/Qualifiers
FT modified_base 1..22
FT /*tag= a
FT /mod_base= OTHER
FT /note= "phosphorothioate linkages"
XX
PN WO200168144-A2.
XX
PD 20-SEP-2001.
XX
PF 12-MAR-2001; 2001WO-US007848.
XX
PR 10-MAR-2000; 2000US-0188303P.
PR 09-MAR-2001; 2001US-00802359.
XX
PA (DYNA-) DYNAVAX TECHNOLOGIES CORP.
XX
PI Van Nest G, Truck S;
XX
DR WPI; 2002-049002/06.
XX
PT New immunomodulatory polynucleotide/microcarrier complex, useful for
PT modulating the immune response of individuals, particularly humans, or
PT for treating idiopathic pulmonary fibrosis, scleroderma, malaria or
PT allergies.
XX
PS Claim 14; Page 49; 63bp; English.
XX
CC The present invention describes an immunomodulatory polynucleotide/
CC microcarrier (IMP/MC) complex (I), which comprises a polynucleotide/
CC having an immunostimulatory sequence (ISS) linked to a biodegradable
CC microcarrier (MC). The ISS comprises the sequence: 5'-CG-3', where the MC
CC is less than 10 micro m in size. (I) has immunomodulatory, anti-allergic,
CC antibacterial, antiprotocozal, antiparasitic, hepatotropic and
CC nephrotoxic activities. It can be used as an interferon (IFN)-alpha
CC stimulator, IFN-gamma stimulator or an immunoglobulin E (IGE) stimulator.
CC (I) can be used for modulating the immune response of individuals,
CC particularly humans. The IMP/MC complex is particularly useful for
CC treating idiopathic pulmonary fibrosis (IPF), scleroderma, cutaneous
CC radiation-induced fibrosis, hepatic fibrosis including schistosomiasis-
CC induced hepatic fibrosis, renal fibrosis, infectious diseases caused by
CC cellular pathogen (e.g. a mycobacterial disease, malaria, leishmaniasis,
CC toxoplasmosis, schistosomiasis or chlonorchiasis), or disorders
CC associated with a Th2-type immune response (e.g. allergies or allergy-
CC induced asthma). The IMP/MC may also be used in individuals receiving
CC therapeutic or prophylactic vaccines, in individuals suffering from
CC cancer, or in individuals at risk of exposure to an infectious agent. The
CC present sequence represents a specifically claimed ISS which can be used
CC in an IMP/MC complex of the present invention
XX
SQ Sequence 22 BP; 6 A; 3 C; 7 G; 6 T; 0 U; 0 Other;
XX
Query Match 100.0%; Score 22; DB 6; Length 22;
Best Local Similarity 100.0%; Pred. No. 0.21; Mismatches 0;
Matches 22; Conservative 0; Indels 0; Gaps 0;
XX
QY 1 TGAAGTGAACGTTGAGATGA 22
DB 1 TGAAGTGAACGTTGAGATGA 22
XX
RESULT 29
ABA03844
ID ABA03844 standard; DNA; 22 BP.
XX
AC ABA03844;
XX

DT 12-FEB-2002 (first entry)
XX
XX Immunostimulatory sequence (ISS) SEQ ID NO:1.
DE
XX
XX Immunostimulatory sequence; ISS; immunostimulation; viral infection;
KW immunomodulation; virucide; gene therapy; viraemia; phosphorothioate; ss.
XX
OS Synthetic.
XX
FH Key Location/Qualifiers
FT modified_base 1..22
FT /*tag= a
FT /mod_base= OTHER
FT /note= "phosphorothioate linkages"
XX
PN WO200168077-A2.
XX
PD 20-SEP-2001.
XX
PF 12-MAR-2001; 2001WO-US007840.
XX
PR 10-MAR-2000; 2000US-0188302P.
PR 09-MAR-2001; 2001US-00802685.
XX
PA (DYNA-) DYNAVAX TECHNOLOGIES CORP.
XX
PI Van Nest G;
XX
DR WPI; 2002-048999/06.
XX
PT Reducing severity, recurrence or duration of symptom of virus infection,
PT or reducing viraemia or blood levels of virus antigen, comprises
PT administering a polynucleotide having an immunostimulatory sequence.
XX
PS Claim 4; Page 54; 65bp; English.
XX
CC The present invention describes a method for reducing severity of a
CC symptom of virus infection in an individual infected with a virus. The
CC method comprises administering a composition consisting of a
CC polynucleotide having an immunostimulatory sequence (ISS). The ISS
CC comprises the sequence 5'-C-G-pyrimidine,pyrimidine,C-G-3'. An antigen is
CC administered in conjunction with the composition. ISS has virucide
CC activity and can be used in gene therapy. The method using the ISS can be
CC used for suppressing, ameliorating and/or preventing viral infections to
CC an individual who may be at risk of being exposed to, exposed to or
CC infected by a virus. It may also be used in reducing the recurrence or
CC duration of a symptom of viral infection, delaying the development of a
CC virus infection, and reducing viraemia or blood levels of virus antigens.
CC The present sequence represents a specifically claimed ISS for use in the
CC method of the invention
XX
SQ Sequence 22 BP; 6 A; 3 C; 7 G; 6 T; 0 U; 0 Other;
XX
Query Match 100.0%; Score 22; DB 6; Length 22;
Best Local Similarity 100.0%; Pred. No. 0.21; Mismatches 0;
Matches 22; Conservative 0; Indels 0; Gaps 0;
XX
QY 1 TGAAGTGAACGTTGAGATGA 22
DB 1 TGAAGTGAACGTTGAGATGA 22
XX
RESULT 30
AAS16337
ID AAS16337 standard; DNA; 22 BP.
XX
AC AAS16337;
XX
DT 14-FEB-2002 (first entry)
XX
DE ISS polynucleotide #1 useful for treating herpes virus infections.
XX
KW Herpes simplex virus; HSV infection; immunostimulatory sequence; ISS;

KW immune response; alphaherpesvirinae; herpes virus zoster virus; VZV;
KW HSV-1; HSV-2; chicken pox; herpes labialis; cold sore; genital herpes;
KW virucide; phosphorothioate; ss.
XX
XX Synthetic.
XX
FH Key Location/Qualifiers
FT modified_base 1..22
FT /*tag= a
FT /mod_base= OTHER
FT /note= "Optionally phosphorothioate internucleotide
FT linkages"
XX
XX WO200168103-A2.
XX
XX
XX 20-SEP-2001.
XX
XX 12-MAR-2001; 2001WO-US007841.
XX
XX 10-MAR-2000; 2000US-0188556P.
XX 09-MAR-2001; 2001US-00802518.
XX
XX (DYNA-) DYNAVAX TECHNOLOGIES CORP.
XX
XX Van Neet G;
XX
XX WPI; 2002-041171/05.
XX
XX Preventing, reducing the severity or reducing the recurrence of an
XX infection or symptom of herpes simplex virus (HSV), e.g. HSV-2, comprises
XX administering an immunostimulatory sequence to an individual.
XX
XX
XX Claim 5; Page 41; 49pp; English.
XX
XX The present invention relates to novel methods of treating, preventing,
XX or reducing the severity or recurrence of a symptom of herpes simplex
XX virus (HSV) infection in an individual who has been exposed to or who is
XX infected with HSV. The method comprises administering a polynucleotide
XX having an immunostimulatory sequence (ISS; AAS16337-AAS16345) which
XX induces an immune response. A composition containing ISS is administered
XX without a HSV (alphaherpesvirinae) antigen. The composition can be
XX included in a kit for ameliorating or preventing a symptom of HSV
XX infection caused by herpes virus zoster virus (VZV), HSV-1 and
XX particularly HSV-2. Such HSV infections include chicken pox, herpes
XX labialis (cold sores) and genital herpes. The present sequence represents
XX one of the ISS polynucleotides of the invention. Note: The present
XX sequence is shown as single stranded in the specification, but the
XX patentees state on page 20 that this sequence may be double stranded
XX
XX Sequence 22 BP; 6 A; 3 C; 7 G; 6 T; 0 U; 0 Other;
SQ
Query Match 100.0%; Score 22; DB 6; Length 22;
Best Local Similarity 100.0%; Pred. No. 0.21;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
QY 1 TGACTGTGAACGTTGAGATGA 22
Db 1 TGACTGTGAACGTTGAGATGA 22
RESULT 31
AAD24885
ID AAD24885 standard; DNA; 22 BP.
XX
XX AAD24885;
XX
XX 12-MAR-2002 (first entry)
XX
XX Immunostimulatory oligodeoxynucleotide (ISS-ODN) 1.
XX
XX Cell death; DNA damage; DNA-dependent protein kinase; DNA-PK; necrosis;
KW immune response; apoptosis; Alzheimer's disease; Parkinson's disease;
KW rheumatoid arthritis; inflammation; osteoporosis; myocardial infarction;

KW liver disease; reperfusion injury; carcinoma; multiple sclerosis; stroke;
KW amyotrophic lateral sclerosis; Acquired Immune Deficiency Syndrome; AIDS;
KW head injury damage; aplastic anaemia; tumour; organ transplantation;
KW cerebral infarction; follicular lymphomas; systemic lupus erythematosus;
KW viral infection; glomerulonephritis; apoptosis; autoimmune disorder;
KW sepsis; immunostimulatory oligodeoxynucleotide; ISS-ODN; ss.
XX
XX Unidentified.
XX
XX WO200165910-A2.
XX
XX 15-NOV-2001.
XX
XX 04-MAY-2001; 2001WO-US014508.
XX
XX 05-MAY-2000; 2000US-0202274P.
XX 17-JAN-2001; 2001US-0262321P.
XX
XX (REGC) UNIV CALIFORNIA.
XX
XX PI Raz E, Lois AF, Takabayashi K;
XX WPI; 2002-062244/08.
XX
XX Modulating cell death or reducing DNA damage in eukaryotic cells, useful
XX for reducing cell death in individual or organ, comprises contacting cell
XX with agent modulating biological activity of DNA-dependent protein
XX kinase.
XX
XX Example 1; Page 29; 57pp; English.
XX
XX The invention relates to a method for modulating cell death or reducing
XX DNA damage in an eukaryotic cell by contacting the cell with an agent
XX that modulates the biological activity of DNA-dependent protein kinase
XX (DNA-PK). The invention also relates nucleic acids which modulate the
XX immune response binding to Ku antigen, resulting in activation of DNA-PK.
XX The method is useful for modulating cell death or reducing DNA damage in
XX an eukaryotic cell, for treating any disorder resulting from a genotoxic
XX insert to a cell e.g., necrosis, apoptosis. The method is also useful for
XX treating cell death-related indications such as Alzheimer's disease,
XX Parkinson's disease, rheumatoid arthritis, septic shock, sepsis, stroke,
XX central nervous system inflammation, osteoporosis, degenerative liver
XX disease, cerebellar degeneration, reperfusion injury, multiple sclerosis,
XX amyotrophic lateral sclerosis, myocardial infarction, head injury damage,
XX acquired immunodeficiency syndrome (AIDS), aplastic anaemia, cerebral
XX infarction, bypass heart surgery, organ transplantation. The method is
XX also useful for treating follicular lymphomas, carcinomas, autoimmune
XX disorders (systemic lupus erythematosus), hormone dependent tumours,
XX immune mediated glomerulonephritis; apoptosis and viral infections. The
XX present sequence is immunostimulatory oligodeoxynucleotide (ISS-ODN) used
XX for identifying ISS-binding protein, which is used in the exemplification
XX of the invention
XX
XX Sequence 22 BP; 6 A; 3 C; 7 G; 6 T; 0 U; 0 Other;
SQ
Query Match 100.0%; Score 22; DB 6; Length 22;
Best Local Similarity 100.0%; Pred. No. 0.21;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
QY 1 TGACTGTGAACGTTGAGATGA 22
Db 1 TGACTGTGAACGTTGAGATGA 22
RESULT 32
AAD21877
ID AAD21877 standard; DNA; 22 BP.
XX
XX AAD21877;
XX
XX 12-FEB-2002 (first entry)
XX
XX Immunostimulatory sequence oligonucleotide (ISS-ODN) #1.
DE

```
XX Cytotoxic T lymphocyte; CTL; T cell; tumour load; cancer radiotherapy;
KW immunostimulatory sequence oligonucleotide; ISS-ODN; chemotherapy;
KW immunosuppression; transplantation; autoimmune disease; infection;
KW acquired immune deficiency syndrome; AIDS; intracellular pathogen;
KW cytomegalovirus; mycobacterial infection; Epstein-Barr virus;
KW varicella zoster virus; human immunodeficiency virus; HIV;
KW phosphorothioate backbone; ss.
XX
XX Unidentified.
XX
XX
XX Key Location/Qualifiers
XX modified_base 1..22
XX FT /+tag= a
XX FT /mod_base= OTHER
XX FT /note= "phosphorothioate backbone"
XX modified_base 1
XX FT /+tag= b
XX FT /mod_base= OTHER
XX FT /note= "Disulphide thymine"
XX
XX MO200172123-A1.
XX
XX 04-OCT-2001.
XX
XX 28-MAR-2001; 2001WO-US010118.
XX PF
XX 28-MAR-2000; 2000US-0192537P.
XX PR
XX 11-MAY-2000; 2000US-0203567P.
XX PR
XX 05-JUL-2000; 2000US-0215895P.
XX
XX (REGC ) UNIV CALIFORNIA.
XX PA (VETE-) DEPT VETERANS AFFAIRS.
XX
XX Raz E, Cho HJ, Richman DD, Horner AA;
XX WPI; 2002-010699/01.
XX
XX Increasing antigen-specific cytotoxic T lymphocyte activity in a CD4+ T
XX cell deficient individual, useful to treat immunodeficiency and block HIV
XX infection, comprises administering immunostimulatory nucleic acid.
XX
XX Example 1; Page 44; 91pp; English.
XX
XX The present invention relates to a method for increasing antigen-specific
XX cytotoxic T lymphocyte (CTL) activity in a CD4+ T cell-deficient
XX individual, comprising administering an immunostimulatory sequence
XX oligonucleotide (ISS-ODN). The immunostimulatory nucleic acids of the
XX invention are used in CD4+ T cell-deficient individuals to decrease
XX tumour load, to treat a primary or acquired immunodeficiency,
XX particularly where the acquired immunodeficiency is temporary and due to
XX cancer radiotherapy or chemotherapy or immunosuppression following bone
XX marrow or organ transplantation, or autoimmune disease treatment, or is
XX acquired immunodeficiency syndrome (AIDS). The nucleic acids may be used
XX to treat a person at risk of becoming CD4+ T cell-deficient, particularly
XX where someone at risk of cancer recurrence. They are also used to treat
XX infection, particularly by an intracellular pathogen, especially one
XX caused by cytomegalovirus. Mycobacterium tuberculosis, M. avium, Epstein-
XX Barr virus, a fungus yeast, varicella zoster virus or human
XX immunodeficiency virus (HIV). The present sequence is a 5' disulphide-
XX linked phosphorothioate immunostimulatory sequence oligonucleotide (ISS-
XX ODN) , used in the exemplification of the invention
XX
XX Sequence 22 BP; 6 A; 3 C; 7 G; 6 T; 0 U; 0 Other;
SQ
Query Match 100.0%; Score 22; DB 6; Length 22;
Best Local Similarity 100.0%; Pred. No. 0.21;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
QY 1 TGACTGTGAACGTTGAGATGA 22
DB 1 TGACTGTGAACGTTGAGATGA 22
```

```
RESULT 33
ABQ75259
ID ABQ75259 standard; DNA; 22 BP.
XX
XX ABQ75259;
XX
XX 05-NOV-2002 (first entry)
XX
XX DE ISS immunomodulatory positive control oligonucleotide SEQ ID NO:59.
XX
XX Immunostimulatory sequence; ISS: immunomodulatory; immune response;
XX allergy; asthma; infectious disease; interferon-gamma; IFN-gamma;
XX idiopathic pulmonary fibrosis; viral infection; mycobacterial disease;
XX malaria; leishmaniasis; toxoplasmosis; schistosomiasis; clonorchiasis;
XX immunoglobulin E; IGE-related disorder; anti-allergic; antiasthmatic;
XX virucide; antibacterial; protozoacide; ss.
XX
XX Synthetic.
XX OS
XX MO200252002-A2.
XX PN
XX 04-JUL-2002.
XX PD
XX 27-DEC-2001; 2001WO-US050821.
XX PF
XX 27-DEC-2000; 2000US-0258675P.
XX PR
XX (DYNA-) DYNAVAX TECHNOLOGIES CORP.
XX PA
XX Fearon KL, Dina D;
XX WPI; 2002-657426/70.
XX
XX Immunomodulatory polynucleotide for modulating an immune response in a
XX subject suffering from disorders associated with Th2-type immune
XX response, e.g. allergy, or infectious disease, comprises an
XX immunostimulatory sequence.
XX
XX Example 1; Page 71; 95pp; English.
XX
XX The present invention describes an immunomodulatory polynucleotide (I)
XX comprising an immunostimulatory sequence (ISS). Also described: (1) an
XX immunomodulatory composition comprising (I); (2) an immunomodulatory
XX polynucleotide/microcarrier (IMP/MC) complex, comprising (I) linked to a
XX biodegradable MC, where the MC is less than 10 micrometre in size; and
XX (3) a kit comprising (I). (I) has anti-allergic, antiasthmatic, virucide,
XX antibacterial and protozoacide activities, and can be used as a modulator
XX of immune response. (I) is useful for modulating an immune response in an
XX individual suffering from disorders associated with a Th2-type immune
XX response, especially an allergy or asthma, or an infectious disease. (I)
XX is also useful for increasing interferon-gamma (IFN-gamma) in an
XX individual having idiopathic pulmonary fibrosis, or IFN-alpha in an
XX individual having a viral infection. (I) is further useful for
XX ameliorating a symptom of an infectious disease caused by a cellular
XX pathogen such as mycobacterial disease, malaria, leishmaniasis,
XX toxoplasmosis, schistosomiasis and clonorchiasis in an individual, or a
XX symptom of an immunoglobulin E (IGE)-related disorder, preferably an
XX allergy-related disorder, in particular asthma in an individual. The
XX present sequence represents an immunomodulatory related oligonucleotide
XX which was used in an example from the present invention
XX
XX Sequence 22 BP; 6 A; 3 C; 7 G; 6 T; 0 U; 0 Other;
SQ
Query Match 100.0%; Score 22; DB 6; Length 22;
Best Local Similarity 100.0%; Pred. No. 0.21;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
QY 1 TGACTGTGAACGTTGAGATGA 22
DB 1 TGACTGTGAACGTTGAGATGA 22
```


XX	ABQ75153	ID	ABQ75153 standard; DNA; 22 BP.
XX	ABQ75153;		
DT	05-NOV-2002	(first entry)	
XX	ISS immunomodulatory oligonucleotide SEQ ID NO:2.		
XX			
KW	Immunostimulatory sequence; ISS: immunomodulatory; immune response;		
KW	allergy; asthma; infectious disease; interferon-gamma; IFN-gamma;		
KW	idiopathic pulmonary fibrosis; viral infection; mycobacterial disease;		
KW	malaria; leishmaniasis; toxoplasmosis; schistosomiasis; clonorchiasis;		
KW	immunoglobulin E; IgE-related disorder; anti-allergic; antiallergic;		
KW	virucide; antibacterial; protozoacide; ss.		
XX			
OS	Synthetic.		
XX			
FH	Key	Location/Qualifiers	
FT	misc_RNA	13	
FT		/*tag= a	
FT		/note= "uracil"	
XX			
PN	WO200252002-A2.		
XX			
PD	04-JUL-2002.		
PF	27-DEC-2001; 2001WO-US050821.		
PR	27-DEC-2000; 2000US-0258675P.		
XX			
PA	(DYNA-) DYNAVAX TECHNOLOGIES CORP.		
PI	Fearon KL, Dina D;		
DR	WPI; 2002-657426/70.		
XX			
PT	Immunomodulatory polynucleotide for modulating an immune response in a		
PT	subject suffering from disorders associated with Th2-type immune		
PT	response, e.g. allergy, or infectious disease, comprises an		
PT	immunostimulatory sequence.		
PS	Claim 4; Page 20; 95pp; English.		
XX			
CC	The present invention describes an immunomodulatory polynucleotide (I)		
CC	comprising an immunostimulatory sequence (ISS). Also described: (1) an		
CC	immunomodulatory composition comprising (1); (2) an immunomodulatory		
CC	polynucleotide/microcarrier (IMF/MC) complex, comprising (1) linked to a		
CC	biodegradable MC, where the MC is less than 10 micrometre in size; and		
CC	(3) a kit comprising (1). (1) has antiallergic, antiaesthetic, virucide,		
CC	antibacterial and protozoacide activities, and can be used as a modulator		
CC	of immune response. (1) is useful for modulating an immune response in an		
CC	individual suffering from disorders associated with a Th2-type immune		
CC	response, especially an allergy or asthma, or an infectious disease. (1)		
CC	is also useful for increasing interferon-gamma (IFN-gamma) in an		
CC	individual having idiopathic pulmonary fibrosis, or IFN-alpha in an		
CC	individual having a viral infection. (1) is further useful for		
CC	ameliorating a symptom of an infectious disease caused by a cellular		
CC	pathogen such as mycobacterial disease, malaria, leishmaniasis,		
CC	toxoplasmosis, echinobosmiasis and clonorchiasis in an individual, or a		
CC	symptom of an immunoglobulin E (IgE)-related disorder, preferably an		
CC	allergy-related disorder, in particular asthma in an individual. The		
CC	present sequence represents an immunomodulatory oligonucleotide which is		
CC	specifically claimed in the present invention		
XX			
Seq	Sequence 22 BP; 6 A; 3 C; 7 G; 5 T; 1 U; 0 Other;		
Query Match	100.0%; Score 22; DB 6; Length 22;		
Best Local Similarity	95.5%; Pred. No. 0.21;		
Matches	21; Conservative 1; Mismatches 0; Indels 0; Gaps 0;		
XY	1 TGACTGTGAACGTTGCAGATCA 22		

D8	
D7	
D6	
D5	
D4	
D3	
D2	
D1	
C9	
C8	
C7	
C6	
C5	
C4	
C3	
C2	
C1	
B9	
B8	
B7	
B6	
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G4	
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E	

Best Local Similarity 95.5%; Pred. No. 0.21;
Matches 21; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

OY 1 TGACTGTGAACGTTGCAGATGA 22
|||||
ID 1 TGACTGTGAACGTTGCAGATGA 22

RESULT 36
ABV73190
ID ABV73190 standard; DNA; 22 BP.

AC ABV73190;

DT 08-JAN-2003 (first entry)

DE Nucleotide sequence of an immunostimulatory oligonucleotide ISS-1.

XX Immunomodulator; immunostimulant; antiinflammatory; antiasthmatic; Th2;
KW anti-allergic; dermatological; vaccine; gene therapy; immune response; ss.

OS Synthetic.

XX WO200274922-A2.

XX 26-SEP-2002.

XX 15-MAR-2002; 2002WO-US008207.

XX 16-MAR-2001; 2001US-0276865P.

XX (REGC) UNIV CALIFORNIA.

XX Broide DH, Raz E;

XX WPI; 2002-740857/80.

PT Suppressing a symptom of an allergic response in a subject, useful for
PT preventing inflammation associated with allergy, comprises administering
PT to an antigen-sensitized host first and second doses of an
PT immunomodulatory nucleic acid.

XX Example; Page 27; 98pp; English.

XX The invention relates to suppressing symptoms of allergic response that
CC involves administering to an antigen-sensitized mammalian host a dose of
CC a composition comprising an immunomodulatory nucleic acid, and a second
CC dose of a composition comprising an immunomodulatory nucleic acid, about
CC 1 day - 8 weeks after the first dose. The immunomodulatory nucleic acid
CC comprises a nucleotide sequence comprising 5'-CG-3'. The methods are
CC useful for suppressing a symptom of an allergic reaction in a subject,
CC maintaining suppression of a Th2 immune response and maintaining
CC stimulation of a Th1 immune response. One method is useful in preventing
CC the onset of, or rapidly suppress, antigen-stimulated inflammation in a
CC host. The immunostimulatory nucleic acids are useful in the treatment and
CC prevention of inflammation associated with allergy, including antigen-
CC stimulated granulocyte infiltration of tissue, such as occurs in the
CC respiratory passages of asthmatics during an asthma attack, for boosting
CC the immune responsiveness of a mammalian host to a sensitizing antigen,
CC and for treating a host suffering from inflammatory conditions such as
CC asthma, nasal polyposis, allergic rhinitis, atopic dermatitis, allergic
CC conjunctivitis, eosinophilic fasciitis, idiopathic hyperesinophilic
CC syndrome, and cutaneous basophil hypersensitivity. The present sequence
CC represents the nucleotide sequence of an immunomodulatory oligonucleotide

XX Sequence 22 BP; 6 A; 3 C; 7 G; 6 T; 0 U; 0 Other;

Query Match 100.0%; Score 22; DB 6; Length 22;

Best Local Similarity 100.0%; Pred. No. 0.21;

Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 1 TGACTGTGAACGTTGCAGATGA 22
|||||
ID 1 TGACTGTGAACGTTGCAGATGA 22

DB 1 TGACTGTGAACGTTGCAGATGA 22

RESULT 37
AAS16348
ID AAS16348 standard; DNA; 22 BP.

XX AAS16348;

DT 14-FEB-2002 (first entry)

DE ISS polynucleotide #1 useful for treating papillomavirus infections.

XX Animal papillomavirus infection; human papillomavirus; HPV; STD; wart;
KW sexually transmitted disease; cervical cancer; immune response;
KW immunostimulatory sequence; ISS; virucide; phosphorothioate; ss.

XX Synthetic.

XX Key Location/Qualifiers

FT modified_base 1..22

FT /*tag= a

FT /mod_base= OTHER

FT /note= "Optionally phosphorothioate linkages"

XX WO200168117-A2.

XX 20-SEP-2001.

XX 12-MAR-2001; 2001WO-US007842.

XX 10-MAR-2000; 2000US-0188265P.

XX 09-MAR-2001; 2001US-00802445.

XX (DVNA-) DVNAVAX TECHNOLOGIES CORP.

XX Van Nest G;

XX WPI; 2002-041172/05.

PT Treating, preventing or ameliorating papillomavirus infections, comprises
PT administering a composition comprising a polynucleotide having an
PT immunostimulatory sequence to the individual.

XX Claim 4; Page 39; 44pp; English.

XX The present invention relates to novel methods of treating, preventing,
CC or reducing the severity or recurrence of a symptom of papillomavirus
CC infection in an individual that has been exposed to or who is infected
CC with papillomavirus. The method comprises administering a polynucleotide
CC having an immunostimulatory sequence (ISS; AAS16348-AAS16355) which
CC induces an immune response. A composition containing ISS is administered
CC without a papillomavirus antigen. The composition can be included in a
CC kit for ameliorating or preventing a symptom of human or animal
CC papillomavirus infection. Infections with human papillomavirus (HPV)
CC which can be prevented or treated using the method of the invention
CC include sexually transmitted diseases (STDs), warts, papillomas and
CC cervical cancer. The present sequence represents one of the ISS
CC polynucleotides of the invention. Note: The present sequence is shown as
CC single stranded in the specification, but the patentees state on page 20
CC that this sequence may be double stranded

XX Sequence 22 BP; 6 A; 3 C; 7 G; 6 T; 0 U; 0 Other;

Query Match 100.0%; Score 22; DB 6; Length 22;

Best Local Similarity 100.0%; Pred. No. 0.21; Indels 0; Gaps 0;

Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 1 TGACTGTGAACGTTGCAGATGA 22
|||||
DB 1 TGACTGTGAACGTTGCAGATGA 22

RESULT 38
 AAL44504
 ID AAL44504 standard; DNA; 22 BP.
 XX
 AC AAL44504;
 XX
 DT 08-NOV-2002 (first entry)
 XX
 DE Cpg motif oligonucleotide #12.
 XX
 KW Vaccine; immune response; microparticle; ds; adsorbent surface;
 KW poly(alpha-hydroxy acid); polyhydroxy butyric acid; polycaprolactone;
 KW polyorthoester; polycyanoacrylate; detergent; submicron emulsion;
 KW viral infection; bacterial infection; parasitic infection;
 KW Cpg oligonucleotide.
 XX
 OS Unidentified.
 XX
 PN WO200226209-A2.
 XX
 PD 04-APR-2002.
 XX
 PF 28-SEP-2001; 2001WO-US030540.
 XX
 PR 28-SEP-2000; 2000US-0236105P.
 XX
 PR 30-AUG-2001; 2001US-0315905P.
 XX
 PA (CHIR) CHIRON CORP.
 XX
 PI O'hagan D, Otten G, Donnelly JJ, Polo JM, Barnett S, Singh M,
 PI Ulmer U, Dubensky TW;
 XX
 DR MPI; 2002-519084/55.
 XX
 PT A microparticle to which a biologically active macromolecule is adsorbed,
 PT for use as a vaccine composition to treat viral, bacterial or parasitic
 PT infections, comprises a polymer microparticle, a detergent and a
 PT submicron emulsion.
 XX
 PS Disclosure; Page 46; 100pp; English.
 XX
 CC The invention relates to a method of raising an immune response in a host
 CC animal. The method of the invention comprises administering a
 CC microparticle that has an adsorbent surface to which a first biologically
 CC active macromolecule (e.g. a nucleic acid) has been adsorbed. The
 CC microparticle comprises a polymer microparticle of poly(alpha-hydroxy
 CC acid), a polyhydroxy butyric acid, a polycaprolactone, a polyorthoester,
 CC a polycyanoacrylate, a detergent, and submicron emulsion. The method/
 CC microparticle of the invention is useful for immunising a host animal
 CC against viral, bacterial or parasitic infections. The present DNA
 CC sequence represents a Cpg oligonucleotide of the invention
 XX
 SQ Sequence 22 BP; 6 A; 3 C; 7 G; 6 T; 0 U; 0 Other;
 Query Match 100.0%; Score 22; DB 6; Length 22;
 Best Local Similarity 100.0%; Pred. No. 0.21;
 Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
 QY 1 TGACTGTGAACGTTGAGATGA 22
 DB 1 TGACTGTGAACGTTGAGATGA 22
 RESULT 39
 ABA03856
 ID ABA03856 standard; DNA; 22 BP.
 XX
 AC ABA03856;
 XX
 DT 12-FEB-2002 (first entry)
 XX
 DE Immunostimulatory sequence (ISS) SEQ ID NO:1.
 XX

KW Immunostimulatory sequence; ISS; immunomodulation; HBV; HCV; infection;
 KW hepatitis B virus; hepatitis C virus; virucide; anti-inflammatory;
 KW hepatotropic; gene therapy; hepatitis infection; viraemia; jaundice;
 KW fatigue; abdominal pain; portal hypertension; cirrhosis;
 KW phosphorocholate; ss.
 XX
 OS Synthetic.
 XX
 FH Key
 FT modified_base 1..22
 FT /tag= a
 FT /mod_base= OTHER
 FT /note= "phosphorocholate linkages"
 XX
 PN WO200168078-A2.
 XX
 PD 20-SEP-2001.
 XX
 PF 12-MAR-2001; 2001WO-US007931.
 XX
 PR 10-MAR-2000; 2000US-0188301P.
 XX
 PR 09-MAR-2001; 2001US-00802370.
 XX
 PA (DYNA-) DYNAVAX TECHNOLOGIES CORP.
 XX
 PI Van Nest G;
 XX
 DR MPI; 2002-049000/06.
 XX
 PT Reducing viraemia and blood levels of hepatitis virus antigen in an
 PT individual infected with hepatitis B virus, comprises administering a
 PT composition comprising a polynucleotide having an immunostimulatory
 PT sequence.
 XX
 PS Claim 5; Page 38; 43pp; English.
 XX
 CC The present invention describes a method for reducing viraemia or blood
 CC levels of a hepatitis virus antigen in an individual infected with
 CC hepatitis B virus (HBV). The method comprises administering a composition
 CC comprising a polynucleotide having an immunostimulatory sequence (ISS) to
 CC the individual, where the ISS comprises the sequence 5'-C'-G'-3', an HBV
 CC antigen is not administered in conjunction with administration of the
 CC composition, and where the composition is administered in an amount
 CC sufficient to reduce HBV viraemia or blood levels of a hepatitis virus
 CC antigen. ISS has virucide, anti-inflammatory and hepatotropic activities,
 CC and can be used in gene therapy. The method can be used for suppressing
 CC and/or ameliorating hepatitis infection in an individual, especially for
 CC preventing, palliating, ameliorating, reducing and/or eliminating one or
 CC more symptoms of HBV or HCV (hepatitis C virus) infection without
 CC administering HBV or HCV antigens. The method is specifically useful for
 CC reducing viraemia and hepatitis viral antigen in blood. ISS-containing
 CC polynucleotides may also be used to improve physical symptoms such as
 CC jaundice, fatigue, abdominal pain, and other clinical/laboratory
 CC findings associated with hepatitis such as blood levels of liver enzymes,
 CC portal hypertension, or cirrhosis. The present sequence represents a
 CC specifically claimed ISS oligonucleotide for use in the method of the
 CC invention
 XX
 SQ Sequence 22 BP; 6 A; 3 C; 7 G; 6 T; 0 U; 0 Other;
 Query Match 100.0%; Score 22; DB 6; Length 22;
 Best Local Similarity 100.0%; Pred. No. 0.21;
 Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
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 DB 1 TGACTGTGAACGTTGAGATGA 22
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 ID ABZ57964 standard; DNA; 22 BP.
 XX

Search completed: October 30, 2004, 17:06:04
Job time : 226 secs

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AC AB257964;
XX
XX 14-APR-2003 (first entry)
XX
XX Immunostimulatory oligodeoxynucleotide ISS-ODN 1018.
DE
XX ISS-ODN 1018; immunostimulant; vaccine; adjuvant; phosphorothioate;
XX gene therapy; liposome; ss.
XX
XX Synthetic.
XX
XX Key Location/Qualifiers
FH modified_base 1..22
FT /*tag= a
FT /mod_base= OTHER
FT /note= "phosphorothioate linkage"
XX
XX WO2003000232-A2.
XX
XX 03-JAN-2003.
XX
XX 25-JUN-2002; 2002WO-IL000507.
XX
XX 25-JUN-2001; 2001US-0300072P.
XX 17-DEC-2001; 2001US-0339785P.
XX
XX (YISS ) YISSUM RES DEV CO HEBREW UNIV JERUSALEM.
XX (REGC ) UNIV CALIFORNIA.
XX
XX Baranholz Y, Kedar E, Louria-Hayon Y, Joseph A, Raz E;
XX Takabayashi K;
XX
XX WPI; 2003-201371/19.
XX
XX Loading immunostimulatory oligodeoxynucleotides (ISS-ODNs) in liposomes
XX useful for stimulating an immune response comprises solubilizing at least
XX one liposome-forming lipid in a solvent and drying or freeze-drying the
XX solution.
XX
XX Example; Page 19; 68pp; English.
XX
XX The present sequence is that of phosphorothioate immunostimulatory
XX oligodeoxynucleotide (ISS-ODN) 1018. The invention provides a novel, fast
XX and simple method of preparing liposomes efficiently loaded (i.e. at
XX least 60% loading) with ISS-ODN. The method is based on drying a
XX suspension of amphipathic material and then hydrating it with an aqueous
XX solution containing the ISS-ODN, thereby entrapping it in liposomes
XX formed from the lipid. The ISS-ODN is preferably an endotoxin-free ISS-
XX ODN with a phosphorothioate or phosphodiester backbone. Liposomal ISS-ODN
XX can be used e.g. as a vaccine adjuvant against pathogens and cancer, in
XX the treatment or prevention of diseases caused by certain infectious
XX microorganisms, in the treatment or prevention of allergic diseases, or
XX to boost innate immunity. In examples of the invention, ISS-ODN 1018 was
XX encapsulated in large multilamellar liposomes with up to 95% efficiency.
XX The liposomal formulation was a considerably more potent parenteral
XX adjuvant in mice than the soluble form of ISS-ODN, as shown in
XX experiments with an influenza vaccine. Enhancement of the systemic
XX humoral and cellular response was demonstrated by liposomal ISS-ODN 1018
XX co-administered with hepatitis B vaccine, and of the systemic humoral
XX response when administered with tuberculosis vaccine. Liposomal ISS-ODN
XX 1018 was also used as a adjuvant for a cancer (murine mammary carcinoma)
XX vaccine, and activated resistance to Leishmaniasis when administered
XX after infection
XX
XX Sequence 22 BP; 6 A; 3 C; 7 G; 6 T; 0 U; 0 Other;
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Query Match 100.0%; Score 22; DB 8; Length 22;
Best Local Similarity 100.0%; Pred. No. 0.21;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
QY 1 TGACTGTGAACGTTGAGATGA 22
DB 1 TGACTGTGAACGTTGAGATGA 22
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OM nucleic - nucleic search, using sw model

Run on: October 30, 2004, 16:17:51 ; Search time 53 Seconds
(without alignments)
295.044 Million cell updates/sec

Title: US-09-802-376-1

Perfect score: 22

Sequence: 1 TGACGTGACGTCGAGATGA 22

Scoring table: IDENTITY_NUC
Gapop 10.0, Gapext 1.0

Searched: 824507 seqs, 355394441 residues

Total number of hits satisfying chosen parameters: 1649014

Minimum DB seq length: 0

Maximum DB seq length: 200000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database: Issued Patents NA:*

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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

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1	22	100.0	22	4	US-09-335-742-19 Sequence 19, Appl
2	22	100.0	22	4	US-09-347-343-32 Sequence 32, Appl
3	22	100.0	22	4	US-09-820-484-1 Sequence 1, Appl
4	22	100.0	22	4	US-09-820-484-3 Sequence 3, Appl
5	22	100.0	22	4	US-09-774-403A-1 Sequence 1, Appl
6	22	100.0	22	4	US-09-296-477-2 Sequence 2, Appl
7	22	100.0	22	4	US-09-308-036A-1 Sequence 1, Appl
8	22	100.0	22	4	US-09-791-500-1 Sequence 1, Appl
9	22	100.0	22	4	US-09-565-906-2 Sequence 2, Appl
10	22	95.5	22	4	US-09-296-477-15 Sequence 15, Appl
11	22	92.7	22	3	US-09-314-2 Sequence 2, Appl
12	22	92.7	22	4	US-09-820-484-2 Sequence 2, Appl
13	22	92.7	22	4	US-09-820-484-6 Sequence 6, Appl
14	22	92.7	22	4	US-09-774-403A-2 Sequence 2, Appl
15	22	92.7	22	4	US-09-296-477-1 Sequence 1, Appl
16	22	92.7	22	4	US-09-296-477-5 Sequence 5, Appl
17	22	92.7	22	4	US-09-296-477-6 Sequence 6, Appl
18	22	92.7	22	4	US-09-791-500-4 Sequence 4, Appl
19	22	92.7	22	4	US-09-791-500-5 Sequence 5, Appl
20	22	92.7	22	4	US-09-791-500-6 Sequence 6, Appl
21	22	90.9	22	4	US-09-296-477-16 Sequence 16, Appl
22	22	88.2	22	4	US-09-296-477-12 Sequence 12, Appl
23	22	85.5	22	3	US-09-092-314-1 Sequence 1, Appl
24	22	85.5	22	3	US-09-092-314-3 Sequence 3, Appl
25	22	85.5	22	3	US-09-092-314-10 Sequence 10, Appl
26	22	85.5	22	4	US-09-335-742-20 Sequence 20, Appl
27	22	85.5	22	4	US-09-347-343-33 Sequence 33, Appl

28	18.8	85.5	22	4	US-09-820-484-7	Sequence 7, Appl
29	18.8	85.5	22	4	US-09-774-403A-3	Sequence 3, Appl
30	18.8	85.5	22	4	US-09-296-477-3	Sequence 3, Appl
31	18.8	85.5	22	4	US-09-296-477-8	Sequence 8, Appl
32	18.8	85.5	22	4	US-09-308-036A-2	Sequence 2, Appl
33	18.8	85.5	22	4	US-09-791-500-3	Sequence 3, Appl
34	18.8	85.5	22	4	US-09-791-500-8	Sequence 8, Appl
35	17.2	78.2	22	3	US-09-092-314-4	Sequence 4, Appl
36	17.2	78.2	22	4	US-09-296-477-9	Sequence 9, Appl
37	17.2	78.2	22	4	US-09-296-477-13	Sequence 13, Appl
38	17.2	78.2	22	4	US-09-791-500-9	Sequence 9, Appl
39	15.6	70.9	22	3	US-09-092-314-5	Sequence 5, Appl
40	15.6	70.9	22	3	US-09-092-314-7	Sequence 7, Appl
41	15.6	70.9	22	3	US-09-092-314-8	Sequence 8, Appl
42	15.6	70.9	22	4	US-09-791-500-2	Sequence 2, Appl
c 43	15.6	70.9	768	4	US-09-543-681A-2526	Sequence 2526, Ap
44	15.6	70.9	795	4	US-09-270-767-7086	Sequence 7086, Ap
45	15.6	70.9	795	4	US-09-270-767-22368	Sequence 22368, A

ALIGNMENTS

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RESULT 1
US-09-235-742-19
; Sequence 19, Application US/09235742
; Patent No. 6498148
; GENERAL INFORMATION:
; APPLICANT: Raz, Eyal
; TITLE OF INVENTION: Immunization-Free Methods for Treating
; TITLE OF INVENTION: Antigen-Stimulated Inflammation in a Mammalian Host and
; TITLE OF INVENTION: Shifting the Host's Antigen Immune Responsiveness to a TH1
; FILE REFERENCE: 6510-170CON4
; CURRENT APPLICATION NUMBER: US/09/235,742
; EARLIER FILING DATE: 1999-01-21
; EARLIER APPLICATION NUMBER: 08/927,120
; EARLIER FILING DATE: 1997-09-05
; EARLIER APPLICATION NUMBER: 08/593,554
; EARLIER FILING DATE: 1996-01-30
; EARLIER APPLICATION NUMBER: 08/725,968
; EARLIER FILING DATE: 1996-10-04
; EARLIER APPLICATION NUMBER: 60/028,118
; EARLIER FILING DATE: 1996-10-11
; NUMBER OF SEQ ID NOS: 20
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 19
; LENGTH: 22
; TYPE: DNA
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Recombinant or Synthetic Sequence
US-09-235-742-19
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Best Local Similarity 100.0%; Pred. No. 0.027;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
QY 1 TGACGTGACGTCGAGATGA 22
DB 1 TGACGTGACGTCGAGATGA 22
RESULT 2
US-09-347-343-32
; Sequence 32, Application US/09347343A
; Patent No. 6514948
; GENERAL INFORMATION:
; APPLICANT: RAZ, Eyal R.
; APPLICANT: KOBAYASHI, Hiroko
; TITLE OF INVENTION: METHOD FOR ENHANCING AN IMMUNE RESPONSE
; FILE REFERENCE: 30448.64US01
; CURRENT APPLICATION NUMBER: US/09/347,343A
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/ CURRENT FILING DATE: 1999-07-02
/ NUMBER OF SEQ ID NOS: 40
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/ SEQ ID NO 32
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/ TYPE: DNA
/ ORGANISM: synthetic oligonucleotide
US-09-347-343-32

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US-09-820-484-1
/ Sequence 1, Application US/09820484
/ Patent No. 6534062
/ GENERAL INFORMATION:
/ APPLICANT: Raz, Eyal
/ APPLICANT: Cho, Hearn Jay
/ APPLICANT: Richman, Douglas
/ APPLICANT: Horner, Anthony A.
/ TITLE OF INVENTION: Method for Increasing a Cytotoxic T
/ TITLE OF INVENTION: Lymphocyte Response in vivo.
/ FILE REFERENCE: 06510-188US1
/ CURRENT APPLICATION NUMBER: US/09/820,484
/ PRIOR FILING DATE: 2001-03-28
/ PRIOR APPLICATION NUMBER: US 60/192,537
/ PRIOR FILING DATE: 2000-03-28
/ PRIOR APPLICATION NUMBER: US 60/203,567
/ PRIOR FILING DATE: 2000-05-11
/ PRIOR APPLICATION NUMBER: US 60/215,895
/ PRIOR FILING DATE: 2000-07-05
/ NUMBER OF SEQ ID NOS: 8
/ SOFTWARE: FastSeq for Windows Version 4.0
/ SEQ ID NO 1
/ LENGTH: 22
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/ NAME/KEY: modified base
/ LOCATION: (1)...(1)
/ OTHER INFORMATION: disulfide thymine
US-09-820-484-1

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/ Sequence 3, Application US/09820484
/ Patent No. 6534062
/ GENERAL INFORMATION:
/ APPLICANT: Raz, Eyal
/ APPLICANT: Cho, Hearn Jay
/ APPLICANT: Richman, Douglas
/ APPLICANT: Horner, Anthony A.
/ TITLE OF INVENTION: Method for Increasing a Cytotoxic T
/ TITLE OF INVENTION: Lymphocyte Response in vivo.
/ FILE REFERENCE: 06510-188US1
/ CURRENT APPLICATION NUMBER: US/09/820,484
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/ CURRENT FILING DATE: 2001-03-28
/ PRIOR APPLICATION NUMBER: US 60/192,537
/ PRIOR FILING DATE: 2000-03-28
/ PRIOR APPLICATION NUMBER: US 60/203,567
/ PRIOR FILING DATE: 2000-05-11
/ PRIOR APPLICATION NUMBER: US 60/215,895
/ PRIOR FILING DATE: 2000-07-05
/ NUMBER OF SEQ ID NOS: 8
/ SOFTWARE: FastSeq for Windows Version 4.0
/ SEQ ID NO 3
/ LENGTH: 22
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/ ORGANISM: Artificial Sequence
/ FEATURE:
/ OTHER INFORMATION: phosphorothioate ISS-ODN
US-09-820-484-3

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Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

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RESULT 5
US-09-774-403A-1
/ Sequence 1, Application US/09774403A
/ Patent No. 6552006
/ GENERAL INFORMATION:
/ APPLICANT: Eyal Raz
/ APPLICANT: Richard Kornbluth
/ APPLICANT: Antonio Catanzaro
/ APPLICANT: Tomoko Hayashi
/ APPLICANT: Dennis Carson
/ TITLE OF INVENTION: Immunomodulatory Polynucleotides in
/ TITLE OF INVENTION: Treatment of Infection by an Intracellular Pathogen
/ FILE REFERENCE: UCA1166
/ CURRENT APPLICATION NUMBER: US/09/774,403A
/ PRIOR FILING DATE: 2002-04-15
/ PRIOR APPLICATION NUMBER: 60/179,353
/ PRIOR FILING DATE: 2000-01-31
/ NUMBER OF SEQ ID NOS: 7
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RESULT 6
US-09-296-477-2
/ Sequence 2, Application US/09296477A
/ Patent No. 6589940
/ GENERAL INFORMATION:
/ APPLICANT: RAZ, E.
/ APPLICANT: SCHWARTZ, D.
/ APPLICANT: ROMAN, M.
/ APPLICANT: DINA, D.
/ TITLE OF INVENTION: IMMUNOSTIMULATORY OLIGONUCLEOTIDES,
/ TITLE OF INVENTION: COMPOSITIONS THEREOF AND METHODS OF USE
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; TITLE OF INVENTION: THEREOF
; FILE REFERENCE: 37782000420
; CURRENT APPLICATION NUMBER: US/09/296,477A
; CURRENT FILING DATE: 1999-04-22
; EARLIER APPLICATION NUMBER: 08/092,329
; EARLIER FILING DATE: 1998-06-05
; EARLIER APPLICATION NUMBER: 60/048,793
; EARLIER FILING DATE: 1997-06-06
; NUMBER OF SEQ ID NOS: 21
; SOFTWARE: FastSeq for Windows Version 3.0
; SEQ ID NO 2
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; TYPE: DNA
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Synthetic construct
US-09-296-477-2

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Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

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        |||||
Db      1 TGACTGTGAACGTTGAGATGA 22

RESULT 7
US-09-308-036A-1
; Sequence 1, Application US/09308036A
; Patent No. 6610661
; GENERAL INFORMATION:
; APPLICANT: Carson, Dennis A.
; APPLICANT: Roman, Mark
; TITLE OF INVENTION: Immunostimulatory
; TITLE OF INVENTION: Polynucleotide/Immunomodulatory Molecule Conjugates
; FILE REFERENCE: 6510-172CIP
; CURRENT APPLICATION NUMBER: US/09/308,036A
; CURRENT FILING DATE: 2000-02-16
; PRIOR APPLICATION NUMBER: PCT/US97/19004
; PRIOR FILING DATE: 1997-10-09
; PRIOR APPLICATION NUMBER: 60/028,118
; PRIOR FILING DATE: 1996-10-11
; NUMBER OF SEQ ID NOS: 2
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 1
; LENGTH: 22
; TYPE: DNA
; ORGANISM: Artificial Sequence
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; OTHER INFORMATION: DY1018 polynucleotide
US-09-308-036A-1

Query Match          100.0%; Score 22; DB 4; Length 22;
Best Local Similarity 100.0%; Pred. No. 0.027;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

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Db      1 TGACTGTGAACGTTGAGATGA 22

RESULT 8
US-09-791-500-1
; Sequence 1, Application US/09791500
; Patent No. 6613751
; GENERAL INFORMATION:
; APPLICANT: Raz, Eyal
; APPLICANT: Rachmilewitz, Daniel
; TITLE OF INVENTION: Method for Treating Inflammatory Bowel
; TITLE OF INVENTION: Disease and Other Forms of Gastrointestinal Inflammation.
; FILE REFERENCE: 6510-202US1
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; CURRENT APPLICATION NUMBER: US/09/791,500
; CURRENT FILING DATE: 2001-02-22
; NUMBER OF SEQ ID NOS: 39
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; SEQ ID NO 1
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US-09-791-500-1

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Best Local Similarity 100.0%; Pred. No. 0.027;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

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Db      1 TGACTGTGAACGTTGAGATGA 22

RESULT 9
US-09-565-906-2
; Sequence 2, Application US/09565906
; Patent No. 6737066
; GENERAL INFORMATION:
; APPLICANT: Moss, Ronald B.
; TITLE OF INVENTION: HIV Immunogenic Compositions and Methods
; FILE REFERENCE: P-IM 4029
; CURRENT APPLICATION NUMBER: US/09/565,906
; CURRENT FILING DATE: 2000-05-05
; PRIOR APPLICATION NUMBER: US 60/132,762
; PRIOR FILING DATE: 1999-05-06
; PRIOR APPLICATION NUMBER: US 60/150,667
; PRIOR FILING DATE: 1999-08-25
; NUMBER OF SEQ ID NOS: 4
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 2
; LENGTH: 22
; TYPE: DNA
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: phosphorothioate-modified synthetic
; OTHER INFORMATION: oligodeoxynucleotide
US-09-565-906-2

Query Match          100.0%; Score 22; DB 4; Length 22;
Best Local Similarity 100.0%; Pred. No. 0.027;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy      1 TGACTGTGAACGTTGAGATGA 22
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Db      1 TGACTGTGAACGTTGAGATGA 22

RESULT 10
US-09-296-477-15
; Sequence 15, Application US/09296477A
; Patent No. 6589940
; GENERAL INFORMATION:
; APPLICANT: RAZ, E.
; APPLICANT: SCHWARTZ, D.
; APPLICANT: ROMAN, M.
; APPLICANT: DINI, D.
; TITLE OF INVENTION: IMMUNOSTIMULATORY OLIGONUCLEOTIDES,
; TITLE OF INVENTION: COMPOSITIONS THEREOF AND METHODS OF USE
; FILE REFERENCE: 37782000420
; CURRENT APPLICATION NUMBER: US/09/296,477A
; CURRENT FILING DATE: 1999-04-22
; EARLIER APPLICATION NUMBER: 09/092,329
; EARLIER FILING DATE: 1998-06-05
; EARLIER APPLICATION NUMBER: 60/048,793
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; EARLIER FILING DATE: 1997-06-06
; NUMBER OF SEQ ID NOS: 21
; SOFTWARE: FastSeq for Windows Version 3.0
; SEQ ID NO 15
; LENGTH: 22
; TYPE: DNA
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Synthetic construct
; NAME/KEY: modified base
; LOCATION: (1)....(11)
; OTHER INFORMATION: 5-bromocytosine
US-09-296-477-15

Query Match          95.5%; Score 21; DB 4; Length 22;
Best Local Similarity 95.5%; Pred. No. 0.087;
Matches 21; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

QY      1 TGACTGTGAACCTTCGAGATGA 22
DB      1 TGACTGTGAANGTTCGAGATGA 22

RESULT 11
US-09-092-314-2
; Sequence 2, Application US/09092314
; Patent No. 6225292
; GENERAL INFORMATION:
; APPLICANT: Raz, Eyal
; APPLICANT: Roman, Mark
; TITLE OF INVENTION: Inhibitors of DNA Immunostimulatory
; Patent No. 6225292
; FILE REFERENCE: 6510-173US1
; CURRENT APPLICATION NUMBER: US/09/092,314
; CURRENT FILING DATE: 1998-06-05
; PRIOR APPLICATION NUMBER: 60/048,794
; PRIOR FILING DATE: 1997-06-06
; NUMBER OF SEQ ID NOS: 11
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 2
; LENGTH: 22
; TYPE: DNA
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Oligonucleotide
US-09-092-314-2

Query Match          92.7%; Score 20.4; DB 3; Length 22;
Best Local Similarity 95.5%; Pred. No. 0.18;
Matches 21; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

QY      1 TGACTGTGAACCTTCGAGATGA 22
DB      1 TGACTGTGAACCTTCGAGATGA 22

RESULT 12
US-09-820-484-2
; Sequence 2, Application US/09820484
; Patent No. 6534062
; GENERAL INFORMATION:
; APPLICANT: Raz, Eyal
; APPLICANT: Cho, Hearn Jay
; APPLICANT: Richman, Douglas
; APPLICANT: Horner, Anthony A.
; TITLE OF INVENTION: Method for Increasing a Cytotoxic T
; FILE REFERENCE: 06510-188US1
; CURRENT APPLICATION NUMBER: US/09/820,484
; CURRENT FILING DATE: 2001-03-28
; PRIOR APPLICATION NUMBER: US 60/192,537
```

```

; PRIOR FILING DATE: 2000-03-28
; PRIOR APPLICATION NUMBER: US 60/203,567
; PRIOR FILING DATE: 2000-05-11
; PRIOR APPLICATION NUMBER: US 60/215,895
; PRIOR FILING DATE: 2000-07-05
; NUMBER OF SEQ ID NOS: 8
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 2
; LENGTH: 22
; TYPE: DNA
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: mutated ODN
US-09-820-484-2

Query Match          92.7%; Score 20.4; DB 4; Length 22;
Best Local Similarity 95.5%; Pred. No. 0.18;
Matches 21; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

QY      1 TGACTGTGAACCTTCGAGATGA 22
DB      1 TGACTGTGAACCTTCGAGATGA 22

RESULT 13
US-09-820-484-6
; Sequence 6, Application US/09820484
; Patent No. 6534062
; GENERAL INFORMATION:
; APPLICANT: Raz, Eyal
; APPLICANT: Cho, Hearn Jay
; APPLICANT: Richman, Douglas
; APPLICANT: Horner, Anthony A.
; TITLE OF INVENTION: Method for Increasing a Cytotoxic T
; FILE REFERENCE: 06510-188US1
; CURRENT APPLICATION NUMBER: US/09/820,484
; CURRENT FILING DATE: 2001-03-28
; PRIOR APPLICATION NUMBER: US 60/192,537
; PRIOR FILING DATE: 2000-03-28
; PRIOR APPLICATION NUMBER: US 60/203,567
; PRIOR FILING DATE: 2000-05-11
; PRIOR APPLICATION NUMBER: US 60/215,895
; PRIOR FILING DATE: 2000-07-05
; NUMBER OF SEQ ID NOS: 8
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 6
; LENGTH: 22
; TYPE: DNA
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: mutated control ODN
US-09-820-484-6

Query Match          92.7%; Score 20.4; DB 4; Length 22;
Best Local Similarity 95.5%; Pred. No. 0.18;
Matches 21; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

QY      1 TGACTGTGAACCTTCGAGATGA 22
DB      1 TGACTGTGAACCTTCGAGATGA 22

RESULT 14
US-09-774-403A-2
; Sequence 2, Application US/09774403A
; Patent No. 6552006
; GENERAL INFORMATION:
; APPLICANT: Eyal Raz
; APPLICANT: Richard Kornbluth
```



```
; APPLICANT: Antonio Catanzaro
; APPLICANT: Tomoko Hayashi
; APPLICANT: Dennis Carson
; TITLE OF INVENTION: Immunomodulatory Polynucleotides in
; TITLE OF INVENTION: Treatment of Infection by an Intracellular Pathogen
; FILE REFERENCE: UCA166
; CURRENT APPLICATION NUMBER: US/09/774,403A
; CURRENT FILING DATE: 2002-04-15
; PRIOR APPLICATION NUMBER: 60/179,353
; PRIOR FILING DATE: 2000-01-31
; NUMBER OF SEQ ID NOS: 7
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 2
; LENGTH: 22
; TYPE: DNA
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Control sequence
US-09-774-403A-2
```

```
Query Match          92.7%; Score 20.4; DB 4; Length 22;
Best Local Similarity 95.5%; Pred. No. 0.18;
Matches 21; Conservative 0; Mismatches 1; Indels 0; Gaps 0;
```

```
QY 1 TGACTGTGAACGTTGAGATGA 22
    |||||
DB 1 TGACTGTGAACGTTGAGATGA 22
```

```
RESULT 15
US-09-296-477-1
; Sequence 1, Application US/09236477A
; Patent No. 6589940
; GENERAL INFORMATION:
; APPLICANT: RAZ, E.
; APPLICANT: SCHWARTZ, D.
; APPLICANT: ROMAN, M.
; APPLICANT: DINI, D.
; TITLE OF INVENTION: IMMUNOSTIMULATORY OLIGONUCLEOTIDES,
; TITLE OF INVENTION: COMPOSITIONS THEREOF AND METHODS OF USE
; TITLE OF INVENTION: THEREOF
; FILE REFERENCE: 37788200420
; CURRENT APPLICATION NUMBER: US/09/296,477A
; CURRENT FILING DATE: 1999-04-22
; EARLIER APPLICATION NUMBER: 09/092,329
; EARLIER FILING DATE: 1998-06-05
; EARLIER APPLICATION NUMBER: 60/048,793
; EARLIER FILING DATE: 1997-06-06
; NUMBER OF SEQ ID NOS: 21
; SOFTWARE: FastSeq for Windows Version 3.0
; SEQ ID NO 1
; LENGTH: 22
; TYPE: DNA
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Synthetic construct
US-09-296-477-1
```

```
Query Match          92.7%; Score 20.4; DB 4; Length 22;
Best Local Similarity 95.5%; Pred. No. 0.18;
Matches 21; Conservative 0; Mismatches 1; Indels 0; Gaps 0;
```

```
QY 1 TGACTGTGAACGTTGAGATGA 22
    |||||
DB 1 TGACTGTGAACGTTGAGATGA 22
```

```
RESULT 16
US-09-296-477-5/c
; Sequence 5, Application US/09236477A
; Patent No. 6589940
; GENERAL INFORMATION:
; APPLICANT: RAZ, E.
```

```
; APPLICANT: SCHWARTZ, D.
; APPLICANT: ROMAN, M.
; APPLICANT: DINI, D.
; TITLE OF INVENTION: IMMUNOSTIMULATORY OLIGONUCLEOTIDES,
; TITLE OF INVENTION: COMPOSITIONS THEREOF AND METHODS OF USE
; TITLE OF INVENTION: THEREOF
; FILE REFERENCE: 37788200420
; CURRENT APPLICATION NUMBER: US/09/296,477A
; CURRENT FILING DATE: 1999-04-22
; EARLIER APPLICATION NUMBER: 09/092,329
; EARLIER FILING DATE: 1998-06-05
; EARLIER APPLICATION NUMBER: 60/048,793
; EARLIER FILING DATE: 1997-06-06
; NUMBER OF SEQ ID NOS: 21
; SOFTWARE: FastSeq for Windows Version 3.0
; SEQ ID NO 5
; LENGTH: 22
; TYPE: DNA
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Synthetic construct
US-09-296-477-5
```

```
Query Match          92.7%; Score 20.4; DB 4; Length 22;
Best Local Similarity 95.5%; Pred. No. 0.18;
Matches 21; Conservative 0; Mismatches 1; Indels 0; Gaps 0;
```

```
QY 1 TGACTGTGAACGTTGAGATGA 22
    |||||
DB 22 TGACTGTGAACGTTGAGATGA 1
```

```
RESULT 17
US-09-296-477-6
; Sequence 6, Application US/09236477A
; Patent No. 6589940
; GENERAL INFORMATION:
; APPLICANT: RAZ, E.
; APPLICANT: SCHWARTZ, D.
; APPLICANT: ROMAN, M.
; APPLICANT: DINI, D.
; TITLE OF INVENTION: IMMUNOSTIMULATORY OLIGONUCLEOTIDES,
; TITLE OF INVENTION: COMPOSITIONS THEREOF AND METHODS OF USE
; TITLE OF INVENTION: THEREOF
; FILE REFERENCE: 37788200420
; CURRENT APPLICATION NUMBER: US/09/296,477A
; CURRENT FILING DATE: 1999-04-22
; EARLIER APPLICATION NUMBER: 09/092,329
; EARLIER FILING DATE: 1998-06-05
; EARLIER APPLICATION NUMBER: 60/048,793
; EARLIER FILING DATE: 1997-06-06
; NUMBER OF SEQ ID NOS: 21
; SOFTWARE: FastSeq for Windows Version 3.0
; SEQ ID NO 6
; LENGTH: 22
; TYPE: DNA
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Synthetic construct
US-09-296-477-6
```

```
Query Match          92.7%; Score 20.4; DB 4; Length 22;
Best Local Similarity 95.5%; Pred. No. 0.18;
Matches 21; Conservative 0; Mismatches 1; Indels 0; Gaps 0;
```

```
QY 1 TGACTGTGAACGTTGAGATGA 22
    |||||
DB 1 TGACTGTGAACGTTGAGATGA 22
```

```
RESULT 18
US-09-791-500-4
; Sequence 4, Application US/09791500
```

```
/ Patent No. 6613751
/ GENERAL INFORMATION:
/ APPLICANT: Raz, Eyal
/ TITLE OF INVENTION: Method for Treating Inflammatory Bowel
/ FILE REFERENCE: 6510-202US1
/ CURRENT APPLICATION NUMBER: US/09/791,500
/ CURRENT FILING DATE: 2001-02-22
/ NUMBER OF SEQ ID NOS: 39
/ SOFTWARE: FastSeq for Windows Version 4.0
/ SEQ ID NO 4
/ LENGTH: 22
/ TYPE: DNA
/ ORGANISM: Artificial Sequence
/ FEATURE:
/ OTHER INFORMATION: synthetic polynucleotide sequence
US-09-791-500-4
```

```
Query Match          92.7%; Score 20.4; DB 4; Length 22;
Best Local Similarity 95.5%; Pred. No. 0.18;
Matches 21; Conservative 0; Mismatches 1; Indels 0; Gaps 0;
```

```
QY      1 TGACTGTGAACGTTGCAGATGA 22
        |||||||
DB      1 TGACTGTGAAGGTTGCAGATGA 22
```

```
RESULT 19
US-09-791-500-5
/ Sequence 5, Application US/09791500
/ Patent No. 6613751
/ GENERAL INFORMATION:
/ APPLICANT: Raz, Eyal
/ TITLE OF INVENTION: Method for Treating Inflammatory Bowel
/ FILE REFERENCE: 6510-202US1
/ CURRENT APPLICATION NUMBER: US/09/791,500
/ CURRENT FILING DATE: 2001-02-22
/ NUMBER OF SEQ ID NOS: 39
/ SOFTWARE: FastSeq for Windows Version 4.0
/ SEQ ID NO 5
/ LENGTH: 22
/ TYPE: DNA
/ ORGANISM: Artificial Sequence
/ FEATURE:
/ OTHER INFORMATION: synthetic polynucleotide sequence
US-09-791-500-5
```

```
Query Match          92.7%; Score 20.4; DB 4; Length 22;
Best Local Similarity 95.5%; Pred. No. 0.18;
Matches 21; Conservative 0; Mismatches 1; Indels 0; Gaps 0;
```

```
QY      1 TGACTGTGAACGTTGCAGATGA 22
        |||||||
DB      1 TGACTGTGAACGTTAGAGATGA 22
```

```
RESULT 20
US-09-791-500-6
/ Sequence 6, Application US/09791500
/ Patent No. 6613751
/ GENERAL INFORMATION:
/ APPLICANT: Raz, Eyal
/ TITLE OF INVENTION: Method for Treating Inflammatory Bowel
/ FILE REFERENCE: 6510-202US1
/ CURRENT APPLICATION NUMBER: US/09/791,500
/ CURRENT FILING DATE: 2001-02-22
/ NUMBER OF SEQ ID NOS: 39
/ SOFTWARE: FastSeq for Windows Version 4.0
```

```
/ SEQ ID NO 6
/ LENGTH: 22
/ TYPE: DNA
/ ORGANISM: Artificial Sequence
/ FEATURE:
/ OTHER INFORMATION: synthetic polynucleotide sequence
US-09-791-500-6
```

```
Query Match          92.7%; Score 20.4; DB 4; Length 22;
Best Local Similarity 95.5%; Pred. No. 0.18;
Matches 21; Conservative 0; Mismatches 1; Indels 0; Gaps 0;
```

```
QY      1 TGACTGTGAACGTTGCAGATGA 22
        |||||||
DB      1 TGACTGTGAACGTTAGAGATGA 22
```

```
RESULT 21
US-09-296-477-16
/ Sequence 16, Application US/09296477A
/ Patent No. 6589940
/ GENERAL INFORMATION:
/ APPLICANT: RAZ, E.
/ APPLICANT: SCHWARTZ, D.
/ APPLICANT: ROMAN, M.
/ TITLE OF INVENTION: IMMUNOSTIMULATORY OLIGONUCLEOTIDES,
/ TITLE OF INVENTION: COMPOSITIONS THEREOF AND METHODS OF USE
/ FILE REFERENCE: 37788200420
/ CURRENT APPLICATION NUMBER: US/09/296,477A
/ CURRENT FILING DATE: 1999-04-22
/ EARLIER APPLICATION NUMBER: 09/092,329
/ EARLIER FILING DATE: 1998-06-05
/ EARLIER APPLICATION NUMBER: 60/048,793
/ EARLIER FILING DATE: 1997-06-06
/ NUMBER OF SEQ ID NOS: 21
/ SOFTWARE: FastSeq for Windows Version 3.0
/ SEQ ID NO 16
/ LENGTH: 22
/ TYPE: DNA
/ ORGANISM: Artificial Sequence
/ FEATURE:
/ OTHER INFORMATION: Synthetic construct
/ NAME/KEY: modified base
/ LOCATION: (11)...(11)
/ OTHER INFORMATION: 5-bromocytosine
/ FEATURE:
/ NAME/KEY: modified base
/ LOCATION: (15)...(15)
/ OTHER INFORMATION: 5-bromocytosine
US-09-296-477-16
```

```
Query Match          90.9%; Score 20; DB 4; Length 22;
Best Local Similarity 90.9%; Pred. No. 0.28;
Matches 20; Conservative 0; Mismatches 2; Indels 0; Gaps 0;
```

```
QY      1 TGACTGTGAACGTTGCAGATGA 22
        |||||||
DB      1 TGACTGTGAANGTTGAGATGA 22
```

```
RESULT 22
US-09-296-477-12
/ Sequence 12, Application US/09296477A
/ Patent No. 6589940
/ GENERAL INFORMATION:
/ APPLICANT: RAZ, E.
/ APPLICANT: SCHWARTZ, D.
/ APPLICANT: ROMAN, M.
/ TITLE OF INVENTION: IMMUNOSTIMULATORY OLIGONUCLEOTIDES,
```

```

; TITLE OF INVENTION: COMPOSITIONS THEREOF AND METHODS OF USE
; FILE OF INVENTION: THEREOF
; FILE REFERENCE: 37782000420
; CURRENT APPLICATION NUMBER: US/09/296,477A
; CURRENT FILING DATE: 1999-04-22
; EARLIER APPLICATION NUMBER: 09/092,329
; EARLIER FILING DATE: 1998-06-05
; EARLIER APPLICATION NUMBER: 60/048,793
; EARLIER FILING DATE: 1997-06-06
; NUMBER OF SEQ ID NOS: 21
; SOFTWARE: FastSeq for Windows Version 3.0
; SEQ ID NO 12
; LENGTH: 22
; TYPE: DNA
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Synthetic construct
; NAME/KEY: modified base
; LOCATION: (11)...(11)
; OTHER INFORMATION: 5-bromocytosine
US-09-296-477-12
```

```

Query Match      88.2%; Score 19.4; DB 4; Length 22;
Best Local Similarity 90.9%; Pred. No. 0.58;
Matches 20; Conservative 0; Mismatches 2; Indels 0; Gaps 0;
```

```
QY      1 TGAAGTGAAGCTTCGAGATGA 22
Db      1 TGAAGTGAAGCTTCGAGATGA 22
```

```

RESULT 23
US-09-092-314-1
; Sequence 1, Application US/09092314
; Patent No. 6225292
; GENERAL INFORMATION:
; APPLICANT: Raz, Eyal
; APPLICANT: Roman, Mark
; TITLE OF INVENTION: Inhibitors of DNA Immunostimulatory
; TITLE OF INVENTION: Sequence Activity
; Patent No. 6225292
; FILE REFERENCE: 6510-173US1
; CURRENT APPLICATION NUMBER: US/09/092,314
; CURRENT FILING DATE: 1998-06-05
; PRIOR APPLICATION NUMBER: 60/048,794
; PRIOR FILING DATE: 1997-06-06
; NUMBER OF SEQ ID NOS: 11
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 1
; LENGTH: 22
; TYPE: DNA
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Oligonucleotide
US-09-092-314-1
```

```

Query Match      85.5%; Score 18.8; DB 3; Length 22;
Best Local Similarity 90.9%; Pred. No. 1.2;
Matches 20; Conservative 0; Mismatches 2; Indels 0; Gaps 0;
```

```
QY      1 TGAAGTGAAGCTTCGAGATGA 22
Db      1 TGAAGTGAAGCTTCGAGATGA 22
```

```

RESULT 24
US-09-092-314-3
; Sequence 3, Application US/09092314
; Patent No. 6225292
; GENERAL INFORMATION:
; APPLICANT: Raz, Eyal
; APPLICANT: Roman, Mark
```

```

; TITLE OF INVENTION: Inhibitors of DNA Immunostimulatory
; FILE OF INVENTION: Sequence Activity
; FILE REFERENCE: 6510-173US1
; CURRENT APPLICATION NUMBER: US/09/092,314
; CURRENT FILING DATE: 1998-06-05
; PRIOR APPLICATION NUMBER: 60/048,794
; PRIOR FILING DATE: 1997-06-06
; NUMBER OF SEQ ID NOS: 11
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 3
; LENGTH: 22
; TYPE: DNA
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Oligonucleotide
US-09-092-314-3
```

```

Query Match      85.5%; Score 18.8; DB 3; Length 22;
Best Local Similarity 90.9%; Pred. No. 1.2;
Matches 20; Conservative 0; Mismatches 2; Indels 0; Gaps 0;
```

```
QY      1 TGAAGTGAAGCTTCGAGATGA 22
Db      1 TGAAGTGAAGCTTCGAGATGA 22
```

```

RESULT 25
US-09-092-314-10
; Sequence 10, Application US/09092314
; Patent No. 6225292
; GENERAL INFORMATION:
; APPLICANT: Raz, Eyal
; APPLICANT: Roman, Mark
; TITLE OF INVENTION: Inhibitors of DNA Immunostimulatory
; TITLE OF INVENTION: Sequence Activity
; Patent No. 6225292
; FILE REFERENCE: 6510-173US1
; CURRENT APPLICATION NUMBER: US/09/092,314
; CURRENT FILING DATE: 1998-06-05
; PRIOR APPLICATION NUMBER: 60/048,794
; PRIOR FILING DATE: 1997-06-06
; NUMBER OF SEQ ID NOS: 11
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 10
; LENGTH: 22
; TYPE: DNA
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Oligonucleotide
US-09-092-314-10
```

```

Query Match      85.5%; Score 18.8; DB 3; Length 22;
Best Local Similarity 90.9%; Pred. No. 1.2;
Matches 20; Conservative 0; Mismatches 2; Indels 0; Gaps 0;
```

```
QY      1 TGAAGTGAAGCTTCGAGATGA 22
Db      1 TGAAGTGAAGCTTCGAGATGA 22
```

```

RESULT 26
US-09-235-742-20
; Sequence 20, Application US/09235742
; Patent No. 6498148
; GENERAL INFORMATION:
; APPLICANT: Raz, Eyal
; TITLE OF INVENTION: Immunization-Free Methods for Treating
; TITLE OF INVENTION: Antigen-Stimulated Inflammation in a Mammalian Host and
; TITLE OF INVENTION: Shifting the Host's Antigen Immune Responsiveness to a TH1
; FILE REFERENCE: 6510-170CON4
; CURRENT APPLICATION NUMBER: US/09/235,742
```

```
; CURRENT FILING DATE: 1999-01-21
; EARLIER APPLICATION NUMBER: 08/927,120
; EARLIER FILING DATE: 1997-09-05
; EARLIER APPLICATION NUMBER: 08/593,554
; EARLIER FILING DATE: 1996-01-30
; EARLIER APPLICATION NUMBER: 08/725,968
; EARLIER FILING DATE: 1996-10-04
; EARLIER APPLICATION NUMBER: 60/028,118
; EARLIER FILING DATE: 1996-10-11
; NUMBER OF SEQ ID NOS: 20
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 20
; LENGTH: 22
; TYPE: DNA
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Recombinant or Synthetic Sequence
US-09-235-742-20
```

```
Query Match      85.5%; Score 18.8; DB 4; Length 22;
Best Local Similarity 90.9%; Pred. No. 1.2;
Matches 20; Conservative 0; Mismatches 2; Indels 0; Gaps 0;
```

```
QY      1 TGAAGTGAACCTTCGAGATGA 22
          |||||
          1 TGAAGTGAACCTTCGAGATGA 22
          |||||
```

```
RESULT 27
US-09-347-343-33
; Sequence 33, Application US/09347343A
; Patent No. 6514948
; GENERAL INFORMATION:
; APPLICANT: RAZ, Eyal R.
; APPLICANT: KOBAYASHI, Hiroko
; TITLE OF INVENTION: METHOD FOR ENHANCING AN IMMUNE RESPONSE
; FILE REFERENCE: 30448.64US01
; CURRENT APPLICATION NUMBER: US/09/347,343A
; CURRENT FILING DATE: 1999-07-02
; NUMBER OF SEQ ID NOS: 40
; SOFTWARE: FastSeq for Windows Version 3.0
; SEQ ID NO 33
; LENGTH: 22
; TYPE: DNA
; ORGANISM: synthetic oligonucleotide
; OTHER INFORMATION: Control sequence
US-09-347-343-33
```

```
Query Match      85.5%; Score 18.8; DB 4; Length 22;
Best Local Similarity 90.9%; Pred. No. 1.2;
Matches 20; Conservative 0; Mismatches 2; Indels 0; Gaps 0;
```

```
QY      1 TGAAGTGAACCTTCGAGATGA 22
          |||||
          1 TGAAGTGAACCTTCGAGATGA 22
          |||||
```

```
RESULT 28
US-09-820-484-7
; Sequence 7, Application US/09820484
; Patent No. 6534062
; GENERAL INFORMATION:
; APPLICANT: RAZ, Eyal
; APPLICANT: Cho, Hearn Jay
; APPLICANT: Richman, Douglas
; APPLICANT: Horner, Anthony A.
; TITLE OF INVENTION: Method for Increasing a Cytotoxic T
; FILE REFERENCE: 06510-188US1
; CURRENT APPLICATION NUMBER: US/09/820,484
; CURRENT FILING DATE: 2001-03-28
; PRIOR APPLICATION NUMBER: US 60/192,537
; PRIOR FILING DATE: 2000-03-28
; PRIOR APPLICATION NUMBER: US 60/203,567
```

```
; PRIOR FILING DATE: 2000-05-11
; PRIOR APPLICATION NUMBER: US 60/215,895
; PRIOR FILING DATE: 2000-07-05
; NUMBER OF SEQ ID NOS: 8
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 7
; LENGTH: 22
; TYPE: DNA
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: MODN
US-09-820-484-7
```

```
Query Match      85.5%; Score 18.8; DB 4; Length 22;
Best Local Similarity 90.9%; Pred. No. 1.2;
Matches 20; Conservative 0; Mismatches 2; Indels 0; Gaps 0;
```

```
QY      1 TGAAGTGAACCTTCGAGATGA 22
          |||||
          1 TGAAGTGAACCTTCGAGATGA 22
          |||||
```

```
RESULT 29
US-09-774-403A-3
; Sequence 3, Application US/09774403A
; Patent No. 6552006
; GENERAL INFORMATION:
; APPLICANT: Richard Kornbluth
; APPLICANT: Antonio Catanzaro
; APPLICANT: Tomoko Hayashi
; APPLICANT: Dennis Carson
; TITLE OF INVENTION: Immunomodulatory Polynucleotides in
; FILE REFERENCE: UCL1166
; CURRENT APPLICATION NUMBER: US/09/774,403A
; CURRENT FILING DATE: 2002-04-15
; PRIOR APPLICATION NUMBER: 60/179,353
; PRIOR FILING DATE: 2000-01-31
; NUMBER OF SEQ ID NOS: 7
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 3
; LENGTH: 22
; TYPE: DNA
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Control sequence
US-09-774-403A-3
```

```
Query Match      85.5%; Score 18.8; DB 4; Length 22;
Best Local Similarity 90.9%; Pred. No. 1.2;
Matches 20; Conservative 0; Mismatches 2; Indels 0; Gaps 0;
```

```
QY      1 TGAAGTGAACCTTCGAGATGA 22
          |||||
          1 TGAAGTGAACCTTCGAGATGA 22
          |||||
```

```
RESULT 30
US-09-296-477-3
; Sequence 3, Application US/09296477A
; Patent No. 6589940
; GENERAL INFORMATION:
; APPLICANT: RAZ, E.
; APPLICANT: SCHWARTZ, D.
; APPLICANT: ROMAN, M.
; APPLICANT: DINA, D.
; TITLE OF INVENTION: IMMUNOSTIMULATORY OLIGONUCLEOTIDES,
; FILE REFERENCE: COMPOSITIONS THEREOF AND METHODS OF USE
; CURRENT APPLICATION NUMBER: US/09/296,477A
; CURRENT FILING DATE: 1999-04-22
```

EARLIER APPLICATION NUMBER: 09/092,329
EARLIER FILING DATE: 1998-06-05
EARLIER APPLICATION NUMBER: 60/048,793
EARLIER FILING DATE: 1997-06-06
NUMBER OF SEQ ID NOS: 21
SOFTWARE: FastSeq for Windows Version 3.0
SEQ ID NO 3
LENGTH: 22
TYPE: DNA
ORGANISM: Artificial Sequence
FEATURE:
OTHER INFORMATION: Synthetic construct
US-09-296-477-3

Query Match 85.5%; Score 18.8; DB 4; Length 22;
Best Local Similarity 90.9%; Pred. No. 1.2;
Matches 20; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

QY 1 TGACTGTGAACGTTGAGATGA 22
Db 1 TGACTGTGAACGTTAGAGATGA 22

RESULT 31
US-09-296-477-8
Sequence 8, Application US/09296477A
Patent No. 6589940
GENERAL INFORMATION:
APPLICANT: RAZ, E.
APPLICANT: SCHWARTZ, D.
APPLICANT: ROMAN, M.
TITLE OF INVENTION: IMMUNOSTIMULATORY OLIGONUCLEOTIDES.
TITLE OF INVENTION: COMPOSITIONS THEREOF AND METHODS OF USE
TITLE OF INVENTION: THEREOF
FILE REFERENCE: 3788200420
CURRENT APPLICATION NUMBER: US/09/296,477A
CURRENT FILING DATE: 1999-04-22
EARLIER APPLICATION NUMBER: 09/092,329
EARLIER FILING DATE: 1998-06-05
EARLIER APPLICATION NUMBER: 60/048,793
EARLIER FILING DATE: 1997-06-06
NUMBER OF SEQ ID NOS: 21
SOFTWARE: FastSeq for Windows Version 3.0
SEQ ID NO 8
LENGTH: 22
TYPE: DNA
ORGANISM: Artificial Sequence
FEATURE:
OTHER INFORMATION: Synthetic construct
US-09-296-477-8

Query Match 85.5%; Score 18.8; DB 4; Length 22;
Best Local Similarity 90.9%; Pred. No. 1.2;
Matches 20; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

QY 1 TGACTGTGAACGTTGAGATGA 22
Db 1 TGACTGTGAACGTTAGAGATGA 22

RESULT 32
US-09-308-036A-2
Sequence 2, Application US/09308036A
Patent No. 6610661
GENERAL INFORMATION:
APPLICANT: Carson, Dennis A.
APPLICANT: Raz, Eyal
APPLICANT: Roman, Mark
TITLE OF INVENTION: Immunostimulatory
TITLE OF INVENTION: Polynucleotide/Immunomodulatory Molecule Conjugates
FILE REFERENCE: 6510-172CIP
CURRENT APPLICATION NUMBER: US/09/308,036A

CURRENT FILING DATE: 2000-02-16
PRIOR APPLICATION NUMBER: PCT/US97/19004
PRIOR FILING DATE: 1997-10-09
PRIOR APPLICATION NUMBER: 60/028,118
PRIOR FILING DATE: 1996-10-11
NUMBER OF SEQ ID NOS: 2
SOFTWARE: FastSeq for Windows Version 4.0
SEQ ID NO 2
LENGTH: 22
TYPE: DNA
ORGANISM: Artificial Sequence
FEATURE:
OTHER INFORMATION: D41019 polynucleotide
US-09-308-036A-2

Query Match 85.5%; Score 18.8; DB 4; Length 22;
Best Local Similarity 90.9%; Pred. No. 1.2;
Matches 20; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

QY 1 TGACTGTGAACGTTGAGATGA 22
Db 1 TGACTGTGAACGTTGAGATGA 22

RESULT 33
US-09-791-500-3
Sequence 3, Application US/09791500
Patent No. 6613751
GENERAL INFORMATION:
APPLICANT: Raz, Eyal
APPLICANT: Rachmilewitz, Daniel
TITLE OF INVENTION: Method for Treating Inflammatory Bowel
TITLE OF INVENTION: Disease and Other Forms of Gastrointestinal Inflammation.
FILE REFERENCE: 6510-202U51
CURRENT APPLICATION NUMBER: US/09/791,500
CURRENT FILING DATE: 2001-02-22
NUMBER OF SEQ ID NOS: 39
SOFTWARE: FastSeq for Windows Version 4.0
SEQ ID NO 3
LENGTH: 22
TYPE: DNA
ORGANISM: Artificial Sequence
FEATURE:
OTHER INFORMATION: synthetic polynucleotide sequence
US-09-791-500-3

Query Match 85.5%; Score 18.8; DB 4; Length 22;
Best Local Similarity 90.9%; Pred. No. 1.2;
Matches 20; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

QY 1 TGACTGTGAACGTTGAGATGA 22
Db 1 TGACTGTGAACCTTAGAGATGA 22

RESULT 34
US-09-791-500-8
Sequence 8, Application US/09791500
Patent No. 6613751
GENERAL INFORMATION:
APPLICANT: Raz, Eyal
APPLICANT: Rachmilewitz, Daniel
TITLE OF INVENTION: Method for Treating Inflammatory Bowel
TITLE OF INVENTION: Disease and Other Forms of Gastrointestinal Inflammation.
FILE REFERENCE: 6510-202U51
CURRENT APPLICATION NUMBER: US/09/791,500
CURRENT FILING DATE: 2001-02-22
NUMBER OF SEQ ID NOS: 39
SOFTWARE: FastSeq for Windows Version 4.0
SEQ ID NO 8
LENGTH: 22
TYPE: DNA
ORGANISM: Artificial Sequence

```

; FEATURE:
; OTHER INFORMATION: synthetic polynucleotide sequence
US-09-791-500-8

Query Match          85.5%; Score 18.8; DB 4; Length 22;
Best Local Similarity 90.9%; Pred. No. 1.2;
Matches 20; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

QY 1 TGAAGTGAAGCTTGAAGATGA 22
    |||||
Db 1 TGAAGTGAAGCTTGAAGATGA 22

RESULT 35
US-09-296-477-13
; Sequence 4, Application US/09092314
; Patent No. 6225292
; GENERAL INFORMATION:
; APPLICANT: RAZ, Eyal
; APPLICANT: ROMAN, Mark
; TITLE OF INVENTION: Inhibitors of DNA Immunostimulatory
; TITLE OF INVENTION: Sequence Activity
; Patent No. 6225292
; FILE REFERENCE: 6510-173US1
; CURRENT APPLICATION NUMBER: US/09/092,314
; CURRENT FILING DATE: 1998-06-05
; PRIOR APPLICATION NUMBER: 60/048,794
; PRIOR FILING DATE: 1997-06-06
; NUMBER OF SEQ ID NOS: 11
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 4
; LENGTH: 22
; TYPE: DNA
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Oligonucleotide
US-09-092-314-4

Query Match          78.2%; Score 17.2; DB 3; Length 22;
Best Local Similarity 86.4%; Pred. No. 7.8;
Matches 19; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

QY 1 TGACTGTGAAGCTTGAAGATGA 22
    |||||
Db 1 TGACTGTGAAGCTTGAAGATGA 22

RESULT 36
US-09-296-477-9
; Sequence 9, Application US/09296477A
; Patent No. 6589940
; GENERAL INFORMATION:
; APPLICANT: SCHWARTZ, D.
; APPLICANT: ROMAN, M.
; APPLICANT: DINA, D.
; TITLE OF INVENTION: IMMUNOSTIMULATORY OLIGONUCLEOTIDES,
; TITLE OF INVENTION: COMPOSITIONS THEREOF AND METHODS OF USE
; TITLE OF INVENTION: THEREOF
; FILE REFERENCE: 37788200420
; CURRENT APPLICATION NUMBER: US/09/296,477A
; CURRENT FILING DATE: 1999-04-22
; EARLIER APPLICATION NUMBER: 09/092,329
; EARLIER FILING DATE: 1998-06-05
; EARLIER APPLICATION NUMBER: 60/048,793
; EARLIER FILING DATE: 1997-06-06
; NUMBER OF SEQ ID NOS: 21
; SOFTWARE: FastSeq for Windows Version 3.0
; SEQ ID NO 9
; LENGTH: 22
; TYPE: DNA
; ORGANISM: Artificial Sequence
; FEATURE:

```

```

; OTHER INFORMATION: Synthetic construct
US-09-296-477-9

Query Match          78.2%; Score 17.2; DB 4; Length 22;
Best Local Similarity 86.4%; Pred. No. 7.8;
Matches 19; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

QY 1 TGAAGTGAAGCTTGAAGATGA 22
    |||||
Db 1 TGAAGTGAAGCTTGAAGATGA 22

RESULT 37
US-09-296-477-13
; Sequence 13, Application US/09296477A
; Patent No. 6589940
; GENERAL INFORMATION:
; APPLICANT: RAZ, E.
; APPLICANT: SCHWARTZ, D.
; APPLICANT: ROMAN, M.
; APPLICANT: DINA, D.
; TITLE OF INVENTION: IMMUNOSTIMULATORY OLIGONUCLEOTIDES,
; TITLE OF INVENTION: COMPOSITIONS THEREOF AND METHODS OF USE
; TITLE OF INVENTION: THEREOF
; FILE REFERENCE: 37788200420
; CURRENT APPLICATION NUMBER: US/09/296,477A
; CURRENT FILING DATE: 1999-04-22
; EARLIER APPLICATION NUMBER: 09/092,329
; EARLIER FILING DATE: 1998-06-05
; EARLIER APPLICATION NUMBER: 60/048,793
; EARLIER FILING DATE: 1997-06-06
; NUMBER OF SEQ ID NOS: 21
; SOFTWARE: FastSeq for Windows Version 3.0
; SEQ ID NO 13
; LENGTH: 22
; TYPE: DNA
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Synthetic construct
US-09-296-477-13

Query Match          78.2%; Score 17.2; DB 4; Length 22;
Best Local Similarity 86.4%; Pred. No. 7.8;
Matches 19; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

QY 1 TGAAGTGAAGCTTGAAGATGA 22
    |||||
Db 1 TGAAGTGAAGCTTGAAGATGA 22

RESULT 38
US-09-791-500-9
; Sequence 9, Application US/09791500
; Patent No. 6613751
; GENERAL INFORMATION:
; APPLICANT: RAZ, Eyal
; APPLICANT: Rachmilewitz, Daniel
; TITLE OF INVENTION: Method for Treating Inflammatory Bowel
; TITLE OF INVENTION: Disease and Other Forms of Gastrointestinal Inflammation.
; FILE REFERENCE: 6510-202US1
; CURRENT APPLICATION NUMBER: US/09/791,500
; CURRENT FILING DATE: 2001-02-22
; NUMBER OF SEQ ID NOS: 39
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 9
; LENGTH: 22
; TYPE: DNA
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: synthetic polynucleotide sequence
US-09-791-500-9

Query Match          78.2%; Score 17.2; DB 4; Length 22;

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Best Local Similarity 86.4%; Pred. No. 7.8;
Matches 19; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

QY 1 TGAAGTGAAGCTTCAGATGA 22
Db 1 TGAAGTGAAGCTTCAGATGA 22

Db 1 TGAAGTGAAGCTTCAGATGA 22

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Job time : 53 secs

RESULT 39

US-09-092-314-5
; Sequence 5, Application US/09092314
; Patent No. 6225292
; GENERAL INFORMATION:
; APPLICANT: Raz, Eyal
; APPLICANT: Roman, Mark
; TITLE OF INVENTION: Inhibitors of DNA Immunostimulatory
; Patent No. 6225292
; FILE REFERENCE: 6510-173US1
; CURRENT APPLICATION NUMBER: US/09/092,314
; CURRENT FILING DATE: 1998-06-05
; PRIOR APPLICATION NUMBER: 60/048,794
; PRIOR FILING DATE: 1997-06-06
; NUMBER OF SEQ ID NOS: 11
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 5
; LENGTH: 22
; TYPE: DNA
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Oligonucleotide
US-09-092-314-5

Query Match 70.9%; Score 15.6; DB 3; Length 22;
Best Local Similarity 81.8%; Pred. No. 52;
Matches 18; Conservative 0; Mismatches 4; Indels 0; Gaps 0;

QY 1 TGAAGTGAAGCTTCAGATGA 22
Db 1 TGAAGTGAAGCTTCAGATGA 22

RESULT 40

US-09-092-314-7
; Sequence 7, Application US/09092314
; Patent No. 6225292
; GENERAL INFORMATION:
; APPLICANT: Raz, Eyal
; APPLICANT: Roman, Mark
; TITLE OF INVENTION: Inhibitors of DNA Immunostimulatory
; Patent No. 6225292
; FILE REFERENCE: 6510-173US1
; CURRENT APPLICATION NUMBER: US/09/092,314
; CURRENT FILING DATE: 1998-06-05
; PRIOR APPLICATION NUMBER: 60/048,794
; PRIOR FILING DATE: 1997-06-06
; NUMBER OF SEQ ID NOS: 11
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 7
; LENGTH: 22
; TYPE: DNA
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Oligonucleotide
US-09-092-314-7

Query Match 70.9%; Score 15.6; DB 3; Length 22;
Best Local Similarity 81.8%; Pred. No. 52;
Matches 18; Conservative 0; Mismatches 4; Indels 0; Gaps 0;

QY 1 TGAAGTGAAGCTTCAGATGA 22
Db 1 TGAAGTGAAGCTTCAGATGA 22

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OM nucleic - nucleic search, using sw model

Run on: October 30, 2004, 17:30:52 ; Search time 213 Seconds
(without alignments)
529,611 Million cell updates/sec

Title: US-09-802-376-1

Perfect score: 1 Tgactctgacgttcgagatga 22

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Gapop 10.0, Gapext 1.0

Searched: 3413475 seqs, 2563800928 residues

Total number of hits satisfying chosen parameters: 6826950

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-Processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

- Database :
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 - 3: /cgn2_6/ptodata/1/pubpna/PCT_NEW_PUB.seq:*
 - 4: /cgn2_6/ptodata/1/pubpna/US06_NEW_PUB.seq:*
 - 5: /cgn2_6/ptodata/1/pubpna/US07_PUBCOMB.seq:*
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 - 20: /cgn2_6/ptodata/1/pubpna/US60_NEW_PUB.seq:*
 - 21: /cgn2_6/ptodata/1/pubpna/US60_PUBCOMB.seq:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	ID	Description
1	22	100.0	22	9	US-09-802-686-1
2	22	100.0	22	9	US-09-802-685-1
3	22	100.0	22	9	US-09-791-500-1
4	22	100.0	22	9	US-09-802-376-1
5	22	100.0	22	9	US-09-774-403A-1
6	22	100.0	22	9	US-09-802-370-1
7	22	100.0	22	9	US-09-802-445-1
8	22	100.0	22	9	US-09-820-484-1
9	22	100.0	22	9	US-09-820-484-3
10	22	100.0	22	9	US-09-828-505-1
11	22	100.0	22	9	US-09-967-881-2
12	22	100.0	22	10	US-09-927-422A-1

13	22	100.0	22	10	US-09-738-046A-3	Sequence 3, Appl1
14	22	100.0	22	10	US-09-927-884-1	Sequence 1, Appl1
15	22	100.0	22	10	US-09-802-359-1	Sequence 1, Appl1
16	22	100.0	22	10	US-09-967-464-19	Sequence 19, Appl1
17	22	100.0	22	10	US-09-848-986-1	Sequence 1, Appl1
18	22	100.0	22	14	US-10-056-420-4	Sequence 4, Appl1
19	22	100.0	22	14	US-10-033-243-2	Sequence 2, Appl1
20	22	100.0	22	14	US-10-033-243-40	Sequence 40, Appl1
21	22	100.0	22	14	US-10-033-243-59	Sequence 59, Appl1
22	22	100.0	22	14	US-10-214-288-1	Sequence 1, Appl1
23	22	100.0	22	14	US-10-099-512-1	Sequence 1, Appl1
24	22	100.0	22	14	US-10-229-208-19	Sequence 19, Appl1
25	22	100.0	22	15	US-10-253-117-32	Sequence 32, Appl1
26	22	100.0	22	15	US-10-233-121A-1	Sequence 1, Appl1
27	22	100.0	22	15	US-10-219-143-1	Sequence 1, Appl1
28	22	100.0	22	15	US-10-214-799-2	Sequence 2, Appl1
29	22	100.0	22	15	US-10-340-275-1	Sequence 1, Appl1
30	22	100.0	22	15	US-10-340-275-3	Sequence 3, Appl1
31	22	100.0	22	15	US-10-339-885-1	Sequence 1, Appl1
32	22	100.0	22	15	US-10-339-885-3	Sequence 3, Appl1
33	22	100.0	22	15	US-10-176-883-2	Sequence 2, Appl1
34	22	100.0	22	15	US-10-176-883-24	Sequence 24, Appl1
35	22	100.0	22	15	US-10-176-883-79	Sequence 79, Appl1
36	22	100.0	22	15	US-10-176-883-134	Sequence 134, Appl1
37	22	100.0	22	15	US-10-412-151-1	Sequence 1, Appl1
38	22	100.0	22	15	US-10-177-826-2	Sequence 2, Appl1
39	22	100.0	22	15	US-10-177-826-24	Sequence 24, Appl1
40	22	100.0	22	15	US-10-177-826-79	Sequence 79, Appl1
41	22	100.0	22	15	US-10-177-826-134	Sequence 134, Appl1
42	22	100.0	22	15	US-10-353-917-1	Sequence 1, Appl1
43	22	100.0	22	15	US-10-357-760-1	Sequence 1, Appl1
44	22	100.0	22	15	US-10-328-578-2	Sequence 2, Appl1
45	22	100.0	22	15	US-10-328-578-24	Sequence 24, Appl1

ALIGNMENTS

RESULT 1
US-09-802-686-1
Sequence 1, Application US/09802686
Patent No. US20010046967A1
GENERAL INFORMATION:
APPLICANT: Dynavax Technologies Corporation
APPLICANT: Van Nest, Gary
TITLE OF INVENTION: METHODS OF PREVENTING AND TREATING
TITLE OF INVENTION: RESPIRATORY VIRAL INFECTION USING IMMUNOMODULATORY
FILE REFERENCE: POLYNUCLEOTIDE SEQUENCES
CURRENT APPLICATION NUMBER: US/09/802,686
CURRENT FILING DATE: 2001-03-09
PRIOR APPLICATION NUMBER: 60/188,583
PRIOR FILING DATE: 2000-03-10
NUMBER OF SEQ ID NOS: 10
SOFTWARE: FastSeq for Windows Version 4.0
SEQ ID NO 1
LENGTH: 22
TYPE: DNA
ORGANISM: Artificial Sequence
FEATURE:
OTHER INFORMATION: Polynucleotide containing CG
US-09-802-686-1

Query Match 100.0%; Score 22; DB 9; Length 22;
Best Local Similarity 100.0%; Pred. 0.36;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 TGACTGTGAACGTCGAGATGA 22
|||||
DB 1 TGACTGTGAACGTCGAGATGA 22

RESULT 2

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US-09-802-685-1
; Sequence 1, Application US/09802685
; Patent No. US20020028784A1
; GENERAL INFORMATION:
; APPLICANT: Van Nest, Gary
; APPLICANT: Biden, Joseph J., Jr.
; TITLE OF INVENTION: METHODS OF PREVENTING AND TREATING VIRAL
; FILE REFERENCE: 377882001600
; CURRENT APPLICATION NUMBER: US/09/802,685
; CURRENT FILING DATE: 2001-03-09
; PRIOR APPLICATION NUMBER: U.S. 60/188,302
; PRIOR FILING DATE: 2000-03-10
; NUMBER OF SEQ ID NOS: 12
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 1
; LENGTH: 22
; TYPE: DNA
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Polynucleotide containing CG
US-09-802-685-1
```

```
Query Match          100.0%; Score 22; DB 9; Length 22;
Best Local Similarity 100.0%; Pred. No. 0.36;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
```

```
QY      1 TGACTGTGAACGTTGAGATGA 22
Db      1 TGACTGTGAACGTTGAGATGA 22
```

```
RESULT 3
US-09-791-500-1
; Sequence 1, Application US/09791500
; Patent No. US20020042387A1
; GENERAL INFORMATION:
; APPLICANT: Raz, Eyal
; APPLICANT: Rachmilwitz, Daniel
; TITLE OF INVENTION: Method for Treating Inflammatory Bowel
; FILE REFERENCE: 6510-202US1
; CURRENT APPLICATION NUMBER: US/09/791,500
; CURRENT FILING DATE: 2001-02-22
; NUMBER OF SEQ ID NOS: 39
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 1
; LENGTH: 22
; TYPE: DNA
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: synthetic polynucleotide sequence
US-09-791-500-1
```

```
Query Match          100.0%; Score 22; DB 9; Length 22;
Best Local Similarity 100.0%; Pred. No. 0.36;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
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```
QY      1 TGACTGTGAACGTTGAGATGA 22
Db      1 TGACTGTGAACGTTGAGATGA 22
```

```
RESULT 4
US-09-802-376-1
; Sequence 1, Application US/09802376
; Patent No. US20020055477A1
; GENERAL INFORMATION:
; APPLICANT: Van Nest, Gary
; APPLICANT: Tuck, Stephen
; TITLE OF INVENTION: IMMUNOMODULATORY FORMULATIONS AND METHODS FOR USE THEREOF
; FILE REFERENCE: 37788201700
; CURRENT APPLICATION NUMBER: US/09/802,376
```

```
; CURRENT FILING DATE: 2001-03-09
; PRIOR APPLICATION NUMBER: 60/188,557
; PRIOR FILING DATE: 2000-03-10
; NUMBER OF SEQ ID NOS: 11
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 1
; LENGTH: 22
; TYPE: DNA
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Polynucleotide containing CG
US-09-802-376-1
```

```
Query Match          100.0%; Score 22; DB 9; Length 22;
Best Local Similarity 100.0%; Pred. No. 0.36;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
```

```
QY      1 TGACTGTGAACGTTGAGATGA 22
Db      1 TGACTGTGAACGTTGAGATGA 22
```

```
RESULT 5
US-09-774-403A-1
; Sequence 1, Application US/09774403A
; Publication No. US20020086295A1
; GENERAL INFORMATION:
; APPLICANT: Eyal Raz
; APPLICANT: Richard Kornbluth
; APPLICANT: Antonio Catanzaro
; APPLICANT: Tomoko Hayashi
; APPLICANT: Dennis Carson
; TITLE OF INVENTION: Immunomodulatory Polynucleotides in
; FILE REFERENCE: UCAL166
; CURRENT APPLICATION NUMBER: US/09/774,403A
; CURRENT FILING DATE: 2002-04-15
; PRIOR APPLICATION NUMBER: 60/179,353
; PRIOR FILING DATE: 2000-01-31
; NUMBER OF SEQ ID NOS: 7
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 1
; LENGTH: 22
; TYPE: DNA
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Immunomodulatory sequence
US-09-774-403A-1
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```
Query Match          100.0%; Score 22; DB 9; Length 22;
Best Local Similarity 100.0%; Pred. No. 0.36;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
```

```
QY      1 TGACTGTGAACGTTGAGATGA 22
Db      1 TGACTGTGAACGTTGAGATGA 22
```

```
RESULT 6
US-09-802-370-1
; Sequence 1, Application US/09802370
; Patent No. US20020096199A1
; GENERAL INFORMATION:
; APPLICANT: Van Nest, Gary
; APPLICANT: Biden, Joseph J., Jr.
; TITLE OF INVENTION: METHODS OF SUPPRESSING HEPATITIS VIRUS
; FILE REFERENCE: 377882001200
; CURRENT APPLICATION NUMBER: US/09/802,370
; CURRENT FILING DATE: 2001-09-24
; PRIOR APPLICATION NUMBER: 60/188,301
; PRIOR FILING DATE: 2000-03-10
; NUMBER OF SEQ ID NOS: 8
```

```
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 1
; LENGTH: 22
; TYPE: DNA
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Polynucleotide containing CG
US-09-802-370-1
```

```
Query Match          100.0%; Score 22; DB 9; Length 22;
Best Local Similarity 100.0%; Pred. No. 0.36;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
```

```
QY      1 TGACTGTGAACGTTTCGAGATGA 22
        |||
        1 TGACTGTGAACGTTTCGAGATGA 22
```

```
RESULT 7
US-09-802-445-1
; Sequence 1, Application US/09802445
; Patent No. US20020107212A1
; GENERAL INFORMATION:
; APPLICANT: Van Nest, Gary
; APPLICANT: Eiden, Joseph J. Jr.
; TITLE OF INVENTION: METHODS OF REDUCING PAPILLOMAVIRUS INFECTION USING IMMUNOMODULATO
; FILE REFERENCE: 377882001300
; CURRENT APPLICATION NUMBER: US/09/802,445
; CURRENT FILING DATE: 2001-09-24
; PRIOR APPLICATION NUMBER: 60/188,265
; PRIOR FILING DATE: 2000-03-10
; NUMBER OF SEQ ID NOS: 8
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 1
; LENGTH: 22
; TYPE: DNA
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Polynucleotide containing CG
US-09-802-445-1
```

```
Query Match          100.0%; Score 22; DB 9; Length 22;
Best Local Similarity 100.0%; Pred. No. 0.36;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
```

```
QY      1 TGACTGTGAACGTTTCGAGATGA 22
        |||
        1 TGACTGTGAACGTTTCGAGATGA 22
```

```
RESULT 8
US-09-820-484-1
; Sequence 1, Application US/09820484
; Patent No. US20020142977A1
; GENERAL INFORMATION:
; APPLICANT: Raz, Eyal
; APPLICANT: Cho, Hearn Jay
; APPLICANT: Richman, Douglas
; APPLICANT: Horner, Anthony A.
; TITLE OF INVENTION: Method for Increasing a Cytotoxic T
; FILE REFERENCE: 06510-188US1
; CURRENT APPLICATION NUMBER: US/09/820,484
; CURRENT FILING DATE: 2001-03-28
; PRIOR APPLICATION NUMBER: US 60/192,537
; PRIOR FILING DATE: 2000-03-28
; PRIOR APPLICATION NUMBER: US 60/203,567
; PRIOR FILING DATE: 2000-05-11
; PRIOR APPLICATION NUMBER: US 60/215,895
; PRIOR FILING DATE: 2000-07-05
; NUMBER OF SEQ ID NOS: 8
; SOFTWARE: FastSeq for Windows Version 4.0
```

```
; SEQ ID NO 1
; LENGTH: 22
; TYPE: DNA
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Disulfide-linked phosphorothioate ISS-ODN
; NAME/KEY: modified_base
; LOCATION: (1)...(1)
; OTHER INFORMATION: disulfide thymine
US-09-820-484-1
```

```
Query Match          100.0%; Score 22; DB 9; Length 22;
Best Local Similarity 100.0%; Pred. No. 0.36;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
```

```
QY      1 TGACTGTGAACGTTTCGAGATGA 22
        |||
        1 TGACTGTGAACGTTTCGAGATGA 22
```

```
RESULT 9
US-09-820-484-3
; Sequence 3, Application US/09820484
; Patent No. US20020142977A1
; GENERAL INFORMATION:
; APPLICANT: Raz, Eyal
; APPLICANT: Cho, Hearn Jay
; APPLICANT: Richman, Douglas
; APPLICANT: Horner, Anthony A.
; TITLE OF INVENTION: Method for Increasing a Cytotoxic T
; FILE REFERENCE: 06510-188US1
; CURRENT APPLICATION NUMBER: US/09/820,484
; CURRENT FILING DATE: 2001-03-28
; PRIOR APPLICATION NUMBER: US 60/192,537
; PRIOR FILING DATE: 2000-03-28
; PRIOR APPLICATION NUMBER: US 60/203,567
; PRIOR FILING DATE: 2000-05-11
; PRIOR APPLICATION NUMBER: US 60/215,895
; PRIOR FILING DATE: 2000-07-05
; NUMBER OF SEQ ID NOS: 8
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 3
; LENGTH: 22
; TYPE: DNA
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: phosphorothioate ISS-ODN
US-09-820-484-3
```

```
Query Match          100.0%; Score 22; DB 9; Length 22;
Best Local Similarity 100.0%; Pred. No. 0.36;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
```

```
QY      1 TGACTGTGAACGTTTCGAGATGA 22
        |||
        1 TGACTGTGAACGTTTCGAGATGA 22
```

```
RESULT 10
US-09-828-505-1
; Sequence 1, Application US/09828505
; Patent No. US20020142978A1
; GENERAL INFORMATION:
; APPLICANT: Raz, Eyal
; APPLICANT: Takabayashi, Kenji
; APPLICANT: Nguyen, Minh-Duc
; TITLE OF INVENTION: Synergistic Improvements to
; FILE REFERENCE: 6510-203
; CURRENT APPLICATION NUMBER: US/09/828,505
; CURRENT FILING DATE: 2001-04-06
; PRIOR APPLICATION NUMBER: 60/195,890
```

;; PRIOR FILING DATE: 2000-04-07
;; NUMBER OF SEQ ID NOS: 4
;; SOFTWARE: FastSeq for Windows Version 4.0
;; SEQ ID NO 1
;; LENGTH: 22
;; TYPE: DNA
;; ORGANISM: Artificial Sequence
;; FEATURE:
;; OTHER INFORMATION: Immunomodulatory nucleic acid sequence
US-09-828-505-1

Query Match 100.0%; Score 22; DB 9; Length 22;
Best Local Similarity 100.0%; Pred. No. 0.36;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 TGAAGTGAACGTTGAGATGA 22
DB 1 TGAAGTGAACGTTGAGATGA 22

RESULT 11
US-09-967-881-2
; Sequence 2, Application US/09967881
; Publication No. US20020192184A1
; GENERAL INFORMATION:
; APPLICANT: Assistance Publique - Hopitaux de Paris
; APPLICANT: Institut National de la Sante et de la Recherche M
; APPLICANT: Carpentier, Antoine
; TITLE OF INVENTION: Use of Stabilised Oligonucleotides for Preparing A Medicament wit
; FILE REFERENCE: 267/246 US
; CURRENT APPLICATION NUMBER: US/09/967,881
; CURRENT FILING DATE: 2001-09-28
; NUMBER OF SEQ ID NOS: 48
; SOFTWARE: PatentIn version 3.1
; SEQ ID NO 2
; LENGTH: 22
; TYPE: DNA
; ORGANISM: Artificial sequence
; FEATURE:
; OTHER INFORMATION: Oligodeoxynucleotide
US-09-967-881-2

Query Match 100.0%; Score 22; DB 9; Length 22;
Best Local Similarity 100.0%; Pred. No. 0.36;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 TGAAGTGAACGTTGAGATGA 22
DB 1 TGAAGTGAACGTTGAGATGA 22

RESULT 12
US-09-927-422A-1
; Sequence 1, Application US/09927422A
; Publication No. US2003002852A1
; GENERAL INFORMATION:
; APPLICANT: Van Nest, Gary
; APPLICANT: Tuck, Stephen
; APPLICANT: Fearon, Karen L.
; APPLICANT: Dina, Dino
; TITLE OF INVENTION: BIOGRADABLE IMMUNOMODULATORY
; FILE REFERENCE: 37782001420
; CURRENT APPLICATION NUMBER: US/09/927,422A
; CURRENT FILING DATE: 2001-08-10
; PRIOR APPLICATION NUMBER: U.S. 09/802,359
; PRIOR FILING DATE: 2001-03-09
; PRIOR APPLICATION NUMBER: U.S. 60/188,30
; PRIOR FILING DATE: 2000-03-10
; NUMBER OF SEQ ID NOS: 23
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 1

;; LENGTH: 22
;; TYPE: DNA
;; ORGANISM: Artificial Sequence
;; FEATURE:
;; OTHER INFORMATION: Polynucleotide containing CG
US-09-927-422A-1

Query Match 100.0%; Score 22; DB 10; Length 22;
Best Local Similarity 100.0%; Pred. No. 0.36;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 TGAAGTGAACGTTGAGATGA 22
DB 1 TGAAGTGAACGTTGAGATGA 22

RESULT 13
US-09-738-046A-3
; Sequence 3, Application US/09738046A
; Publication No. US20030054007A1
; GENERAL INFORMATION:
; APPLICANT: PELGNER, PHILIP L.
; APPLICANT: ZELPHART, OLIVIER
; TITLE OF INVENTION: INTRACELLULAR PROTEIN DELIVERY
; FILE REFERENCE: GTSYS.004A
; CURRENT APPLICATION NUMBER: US/09/738,046A
; CURRENT FILING DATE: 2000-12-15
; NUMBER OF SEQ ID NOS: 3
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 3
; LENGTH: 22
; TYPE: DNA
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: artificial sequence containing Cpg sequence
US-09-738-046A-3

Query Match 100.0%; Score 22; DB 10; Length 22;
Best Local Similarity 100.0%; Pred. No. 0.36;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 TGAAGTGAACGTTGAGATGA 22
DB 1 TGAAGTGAACGTTGAGATGA 22

RESULT 14
US-09-927-884-1
; Sequence 1, Application US/09927884
; Publication No. US20030059773A1
; GENERAL INFORMATION:
; APPLICANT: Van Nest, Gary
; APPLICANT: Tuck, Stephen
; APPLICANT: Fearon, Karen L.
; APPLICANT: Dina, Dino
; TITLE OF INVENTION: IMMUNOMODULATORY FORMULATIONS AND
; FILE REFERENCE: 37782001720
; CURRENT APPLICATION NUMBER: US/09/927,884
; CURRENT FILING DATE: 2001-08-10
; PRIOR APPLICATION NUMBER: U.S. 09/802,376
; PRIOR FILING DATE: 2001-03-09
; PRIOR APPLICATION NUMBER: U.S. 60/188,557
; PRIOR FILING DATE: 2000-03-10
; NUMBER OF SEQ ID NOS: 14
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 1
; LENGTH: 22
; TYPE: DNA
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Polynucleotide containing CG

US-09-927-884-1

Query Match 100.0%; Score 22; DB 10; Length 22;
Best Local Similarity 100.0%; Pred. No. 0.36;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 TGACTGTGAACGTTGAGATGA 22
Db 1 TGACTGTGAACGTTGAGATGA 22

RESULT 15

US-09-802-359-1
; Sequence 1, Application US/09802359
; Publication No. US20030129251A1
; GENERAL INFORMATION:
; APPLICANT: Van Nest, Gary
; APPLICANT: Tuck, Stephen
; TITLE OF INVENTION: IMMUNOMODULATORY FORMULATIONS AND METHODS FOR USE THEREOF
; FILE REFERENCE: 37788201400
; CURRENT APPLICATION NUMBER: US/09/802,359
; PRIOR FILING DATE: 2001-03-09
; PRIOR APPLICATION NUMBER: 60/188,303
; PRIOR FILING DATE: 2000-03-10
; NUMBER OF SEQ ID NOS: 11
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 1
; LENGTH: 22
; TYPE: DNA
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Polynucleotide containing CG
US-09-802-359-1

Query Match 100.0%; Score 22; DB 10; Length 22;
Best Local Similarity 100.0%; Pred. No. 0.36;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 TGACTGTGAACGTTGAGATGA 22
Db 1 TGACTGTGAACGTTGAGATGA 22

RESULT 16

US-09-967-464-19
; Sequence 19, Application US/09967464
; Publication No. US20030138453A1
; GENERAL INFORMATION:
; APPLICANT: O'Hagan, Derek
; APPLICANT: Otten, Gillis
; APPLICANT: Donnelly, John J.
; APPLICANT: Polo, John M.
; APPLICANT: Barnett, Susan
; APPLICANT: Singh, Mamohan
; APPLICANT: Ulmer, Jeffrey
; APPLICANT: Dubensky, Jr., Thomas W.
; TITLE OF INVENTION: MICROPARTICLES FOR DELIVERY OF HETEROLOGOUS NUCLEIC ACIDS
; FILE REFERENCE: P1269, 004
; CURRENT APPLICATION NUMBER: US/09/967,464
; PRIOR FILING DATE: 2002-04-11
; PRIOR APPLICATION NUMBER: 60/236,105
; PRIOR FILING DATE: 2000-09-28
; PRIOR APPLICATION NUMBER: 60/315,905
; PRIOR FILING DATE: 2001-08-30
; NUMBER OF SEQ ID NOS: 68
; SOFTWARE: PatentIn version 3.1
; SEQ ID NO 19
; LENGTH: 22
; TYPE: DNA
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Artificial sequence is synthesized
US-09-967-464-19

Query Match 100.0%; Score 22; DB 10; Length 22;
Best Local Similarity 100.0%; Pred. No. 0.36;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 TGACTGTGAACGTTGAGATGA 22
Db 1 TGACTGTGAACGTTGAGATGA 22

RESULT 17

US-09-848-986-1
; Sequence 1, Application US/09848986
; Publication No. US20030176373A1
; GENERAL INFORMATION:
; APPLICANT: Raz, Eyal
; APPLICANT: Loie, Augusto F.
; APPLICANT: Takabayashi, Kenji
; TITLE OF INVENTION: Agents that Modulate DNA-PK Activity and
; FILE REFERENCE: 06510168US1
; CURRENT APPLICATION NUMBER: US/09/848,986
; PRIOR FILING DATE: 2001-05-03
; PRIOR APPLICATION NUMBER: us 60/262321
; PRIOR FILING DATE: 2001-01-17
; PRIOR APPLICATION NUMBER: us 60/202,274
; PRIOR FILING DATE: 2000-05-05
; NUMBER OF SEQ ID NOS: 21
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 1
; LENGTH: 22
; TYPE: DNA
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: ISS-ODN
US-09-848-986-1

Query Match 100.0%; Score 22; DB 10; Length 22;
Best Local Similarity 100.0%; Pred. No. 0.36;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 TGACTGTGAACGTTGAGATGA 22
Db 1 TGACTGTGAACGTTGAGATGA 22

RESULT 18

US-10-056-420-4
; Sequence 4, Application US/10056420
; Publication No. US2003004428A1
; GENERAL INFORMATION:
; APPLICANT: Moss, Ronald B.
; APPLICANT: Carlo, Dennis J.
; TITLE OF INVENTION: Method for Treating an HIV-Infected
; TITLE OF INVENTION: Individual By Combining Immunization With Structured
; FILE REFERENCE: P-1M 5158
; CURRENT APPLICATION NUMBER: US/10/056,420
; PRIOR FILING DATE: 2002-01-24
; PRIOR APPLICATION NUMBER: US 60/264,476
; PRIOR FILING DATE: 2001-01-26
; NUMBER OF SEQ ID NOS: 5
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 4
; LENGTH: 22
; TYPE: DNA
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: exemplary ISS sequence
US-10-056-420-4

Query Match 100.0%; Score 22; DB 14; Length 22;
Best Local Similarity 100.0%; Pred. No. 0.36;

Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 TGACTGTGAACGTTGCAGATGA 22
|||||

Db 1 TGACTGTGAACGTTGCAGATGA 22

RESULT 19
US-10-033-243-2
; Sequence 2, Application US/10033243
; Publication No. US20030049266A1
; GENERAL INFORMATION:
; APPLICANT: FEARON, Karen L.
; APPLICANT: DINA, Dino
; TITLE OF INVENTION: IMMUNOMODULATORY POLYNUCLEOTIDES AND
; FILE REFERENCE: 377882001800
; CURRENT APPLICATION NUMBER: US/10/033,243
; PRIOR FILING DATE: 2002-04-03
; PRIOR APPLICATION NUMBER: 60/258,675
; NUMBER OF SEQ ID NOS: 133
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 2
; LENGTH: 22
; TYPE: DNA
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Polynucleotide containing CG
US-10-033-243-2

Query Match 100.0%; Score 22; DB 14; Length 22;
Best Local Similarity 95.5%; Pred. No. 0.36;
Matches 21; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY 1 TGACTGTGAACGTTGCAGATGA 22
|||||

Db 1 TGACTGTGAACGTTGCAGATGA 22

RESULT 20
US-10-033-243-40
; Sequence 40, Application US/10033243
; Publication No. US20030049266A1
; GENERAL INFORMATION:
; APPLICANT: FEARON, Karen L.
; APPLICANT: DINA, Dino
; TITLE OF INVENTION: IMMUNOMODULATORY POLYNUCLEOTIDES AND
; FILE REFERENCE: 377882001800
; CURRENT APPLICATION NUMBER: US/10/033,243
; PRIOR FILING DATE: 2002-04-03
; PRIOR APPLICATION NUMBER: 60/258,675
; NUMBER OF SEQ ID NOS: 133
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 40
; LENGTH: 22
; TYPE: DNA
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Polynucleotide containing CG
US-10-033-243-40

Query Match 100.0%; Score 22; DB 14; Length 22;
Best Local Similarity 95.5%; Pred. No. 0.36;
Matches 21; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY 1 TGACTGTGAACGTTGCAGATGA 22
|||||

Db 1 TGACTGTGAACGTTGCAGATGA 22

RESULT 21
US-10-033-243-59
; Sequence 59, Application US/10033243
; Publication No. US20030049266A1
; GENERAL INFORMATION:
; APPLICANT: FEARON, Karen L.
; APPLICANT: DINA, Dino
; TITLE OF INVENTION: IMMUNOMODULATORY POLYNUCLEOTIDES AND
; FILE REFERENCE: 377882001800
; CURRENT APPLICATION NUMBER: US/10/033,243
; PRIOR FILING DATE: 2002-04-03
; PRIOR APPLICATION NUMBER: 60/258,675
; NUMBER OF SEQ ID NOS: 133
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 59
; LENGTH: 22
; TYPE: DNA
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Polynucleotide containing CG
US-10-033-243-59

Query Match 100.0%; Score 22; DB 14; Length 22;
Best Local Similarity 100.0%; Pred. No. 0.36;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 TGACTGTGAACGTTGCAGATGA 22
|||||

Db 1 TGACTGTGAACGTTGCAGATGA 22

RESULT 22
US-10-214-288-1
; Sequence 1, Application US/10214288
; Publication No. US20030064064A1
; GENERAL INFORMATION:
; APPLICANT: DINA, Dino
; TITLE OF INVENTION: Methods of Treating IGE-Associated
; FILE REFERENCE: 377882000601
; CURRENT APPLICATION NUMBER: US/10/214,288
; PRIOR FILING DATE: 2002-08-06
; PRIOR APPLICATION NUMBER: US 09/397,198
; PRIOR FILING DATE: 1999-09-16
; PRIOR APPLICATION NUMBER: US 60/100,838
; PRIOR FILING DATE: 1998-09-18
; PRIOR APPLICATION NUMBER: US 60/136,600
; NUMBER OF SEQ ID NOS: 1
; SOFTWARE: FastSeq for Windows Version 3.0
; SEQ ID NO 1
; LENGTH: 22
; TYPE: DNA
; ORGANISM: Unknown
; FEATURE:
; OTHER INFORMATION: ISS sequence
US-10-214-288-1

Query Match 100.0%; Score 22; DB 14; Length 22;
Best Local Similarity 100.0%; Pred. No. 0.36;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 TGACTGTGAACGTTGCAGATGA 22
|||||

Db 1 TGACTGTGAACGTTGCAGATGA 22

RESULT 23
US-10-099-512-1
; Sequence 1, Application US/10099512
; Publication No. US20030078223A1

```
; GENERAL INFORMATION:
; APPLICANT: Raz, Eyal
; APPLICANT: Broide, David
; TITLE OF INVENTION: Compositions and Methods for Modulating
; TITLE OF INVENTION: an Immune Response
; FILE REFERENCE: UCAL-170CIP15
; CURRENT APPLICATION NUMBER: US/10/099,512
; PRIOR FILING DATE: 2002-03-15
; PRIOR APPLICATION NUMBER: 09/235,742
; PRIOR FILING DATE: 1999-01-21
; PRIOR APPLICATION NUMBER: 08/927,120
; PRIOR FILING DATE: 1997-09-05
; PRIOR APPLICATION NUMBER: 09/265,191
; PRIOR FILING DATE: 1999-03-10
; PRIOR APPLICATION NUMBER: 08/593,554
; PRIOR FILING DATE: 1996-01-30
; PRIOR APPLICATION NUMBER: 60/276,865
; PRIOR FILING DATE: 2001-03-16
; NUMBER OF SEQ ID NOS: 4
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 1
; LENGTH: 22
; TYPE: DNA
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: synthetic DNA
US-10-099-512-1
```

```
Query Match          100.0%; Score 22; DB 14; Length 22;
Best Local Similarity 100.0%; Pred. No. 0.36;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
```

```
OY      1 TGAAGTGAACGTTTCAGATGA 22
        |||||
DB      1 TGAAGTGAACGTTTCAGATGA 22
```

```
RESULT 24
US-10-229-208-19
; Sequence 19, Application US/10229208
; Publication No. US20030092663A1
; GENERAL INFORMATION:
; APPLICANT: Raz, Eyal
; TITLE OF INVENTION: Immunization-Free Methods for Treating
; TITLE OF INVENTION: Antigen-Stimulated Inflammation in a Mammalian Host and
; TITLE OF INVENTION: Shifting the Host's Antigen Immune Responsiveness to a THI
; TITLE OF INVENTION: Phenotype
; FILE REFERENCE: UCAL-170CON9
; CURRENT APPLICATION NUMBER: US/10/229,208
; PRIOR FILING DATE: 2002-12-05
; PRIOR APPLICATION NUMBER: 09/235,742
; PRIOR FILING DATE: 1999-01-21
; PRIOR APPLICATION NUMBER: 08/927,120
; PRIOR FILING DATE: 1997-09-15
; NUMBER OF SEQ ID NOS: 20
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 19
; LENGTH: 22
; TYPE: DNA
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Recombinant or Synthetic Sequence with a
; OTHER INFORMATION: phosphothioate backbone
US-10-229-208-19
```

```
Query Match          100.0%; Score 22; DB 14; Length 22;
Best Local Similarity 100.0%; Pred. No. 0.36;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
```

```
OY      1 TGAAGTGAACGTTTCAGATGA 22
        |||||
DB      1 TGAAGTGAACGTTTCAGATGA 22
```

```
RESULT 25
US-10-253-117-32
; Sequence 32, Application US/10253117
; Publication No. US20030119773A1
; GENERAL INFORMATION:
; APPLICANT: Raz, Eyal R.
; APPLICANT: KOBAYASHI, Hiroko
; TITLE OF INVENTION: METHOD FOR ENHANCING AN IMMUNE RESPONSE
; FILE REFERENCE: 30448.64US01
; CURRENT APPLICATION NUMBER: US/10/253,117
; PRIOR FILING DATE: 2002-09-23
; PRIOR APPLICATION NUMBER: US/09/347,343
; PRIOR FILING DATE: 1999-07-02
; NUMBER OF SEQ ID NOS: 40
; SOFTWARE: FastSeq for Windows Version 3.0
; SEQ ID NO 32
; LENGTH: 22
; TYPE: DNA
; ORGANISM: synthetic oligonucleotide
US-10-253-117-32
```

```
Query Match          100.0%; Score 22; DB 15; Length 22;
Best Local Similarity 100.0%; Pred. No. 0.36;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
```

```
OY      1 TGAAGTGAACGTTTCAGATGA 22
        |||||
DB      1 TGAAGTGAACGTTTCAGATGA 22
```

```
RESULT 26
US-10-233-121A-1
; Sequence 1, Application US/10233121A
; Publication No. US20030125284A1
; GENERAL INFORMATION:
; APPLICANT: RAZ, EYAL
; APPLICANT: TAKAYASHI, KENJI
; TITLE OF INVENTION: AGENTS THAT MODULATE DNA-PK ACTIVITY AND
; TITLE OF INVENTION: METHODS OF USE THEREOF
; FILE REFERENCE: UCAL-168DIV
; CURRENT APPLICATION NUMBER: US/10/233,121A
; PRIOR FILING DATE: 2003-03-11
; PRIOR APPLICATION NUMBER: US 09/848,986
; PRIOR FILING DATE: 2001-05-04
; PRIOR APPLICATION NUMBER: US 60/202,274
; PRIOR FILING DATE: 2000-05-05
; PRIOR APPLICATION NUMBER: US 60/262,321
; PRIOR FILING DATE: 2001-01-17
; NUMBER OF SEQ ID NOS: 21
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 1
; LENGTH: 22
; TYPE: DNA
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: phosphodiester or phosphorothioate oligonucleotide
US-10-233-121A-1
```

```
Query Match          100.0%; Score 22; DB 15; Length 22;
Best Local Similarity 100.0%; Pred. No. 0.36;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
```

```
OY      1 TGAAGTGAACGTTTCAGATGA 22
        |||||
DB      1 TGAAGTGAACGTTTCAGATGA 22
```

```
RESULT 27
US-10-219-143-1
; Sequence 1, Application US/10219143
; Publication No. US20030130217A1
```

```
/ GENERAL INFORMATION:
/ APPLICANT: Raz, Eyal
/ APPLICANT: Rachmilewitz, Daniel
/ TITLE OF INVENTION: Method for Treating Inflammatory Bowel
/ TITLE OF INVENTION: Disease and Other Forms of Gastrointestinal Inflammation.
/ FILE REFERENCE: 6510-202US1
/ CURRENT APPLICATION NUMBER: US/10/219,143
/ PRIOR FILING DATE: 2002-08-13
/ PRIOR APPLICATION NUMBER: US/09/791,500
/ PRIOR FILING DATE: 2001-02-22
/ NUMBER OF SEQ ID NOS: 39
/ SOFTWARE: FaastSeq for Windows Version 4.0
/ SEQ ID NO 1
/ LENGTH: 22
/ TYPE: DNA
/ ORGANISM: Artificial Sequence
/ FEATURE:
/ OTHER INFORMATION: synthetic polynucleotide sequence
US-10-219-143-1
```

```
Query Match          100.0%; Score 22; DB 15; Length 22;
Best Local Similarity 100.0%; Pred. No. 0.36;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
```

```
QY      1 TGACTGTGAACGTTGCGAGTGA 22
Db      1 TGACTGTGAACGTTGCGAGTGA 22
```

```
RESULT 28
US-10-214-799-2
/ Sequence 2, Application US/10214799
/ Publication No. US20030133988A1
/ GENERAL INFORMATION:
/ APPLICANT: Pearson, Karen L. and Dina, Dino
/ TITLE OF INVENTION: IMMUNOMODULATORY COMPOSITIONS,
/ TITLE OF INVENTION: FORMULATIONS, AND METHODS OF USE THEREOF
/ FILE REFERENCE: 377882003100
/ CURRENT APPLICATION NUMBER: US/10/214,799
/ CURRENT FILING DATE: 2002-08-07
/ PRIOR APPLICATION NUMBER: US 60/310,743
/ PRIOR FILING DATE: 2001-08-07
/ PRIOR APPLICATION NUMBER: US 60/335,263
/ PRIOR FILING DATE: 2001-10-25
/ NUMBER OF SEQ ID NOS: 2
/ SOFTWARE: FaastSeq for Windows Version 4.0
/ SEQ ID NO 2
/ LENGTH: 22
/ TYPE: DNA
/ ORGANISM: Artificial Sequence
/ FEATURE:
/ OTHER INFORMATION: Synthetic construct
US-10-214-799-2
```

```
Query Match          100.0%; Score 22; DB 15; Length 22;
Best Local Similarity 100.0%; Pred. No. 0.36;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
```

```
QY      1 TGACTGTGAACGTTGCGAGTGA 22
Db      1 TGACTGTGAACGTTGCGAGTGA 22
```

```
RESULT 29
US-10-340-275-1
/ Sequence 1, Application US/10340275
/ Publication No. US20030143213A1
/ GENERAL INFORMATION:
/ APPLICANT: Raz, Eyal
/ APPLICANT: Cho, Hearn Jay
/ APPLICANT: Richman, Douglas
/ APPLICANT: Horner, Anthony A.
/ TITLE OF INVENTION: Method for Increasing a Cytotoxic T
```

```
/ TITLE OF INVENTION: Lymphocyte Response in vivo.
/ FILE REFERENCE: UCAL-188DIY
/ CURRENT APPLICATION NUMBER: US/10/340,275
/ PRIOR FILING DATE: 2003-01-10
/ PRIOR APPLICATION NUMBER: 09/820,484
/ PRIOR FILING DATE: 2001-03-28
/ PRIOR APPLICATION NUMBER: US 60/192,537
/ PRIOR FILING DATE: 2000-03-28
/ PRIOR APPLICATION NUMBER: US 60/203,567
/ PRIOR FILING DATE: 2000-05-11
/ PRIOR APPLICATION NUMBER: US 60/215,895
/ PRIOR FILING DATE: 2000-07-05
/ NUMBER OF SEQ ID NOS: 8
/ SOFTWARE: FaastSeq for Windows Version 4.0
/ SEQ ID NO 1
/ LENGTH: 22
/ TYPE: DNA
/ ORGANISM: Artificial Sequence
/ FEATURE:
/ OTHER INFORMATION: Disulfide-linked phosphorothioate ISS-ODN
/ NAME/KEY: modified base
/ LOCATION: (1)-(1)
/ OTHER INFORMATION: disulfide thymine
US-10-340-275-1
```

```
Query Match          100.0%; Score 22; DB 15; Length 22;
Best Local Similarity 100.0%; Pred. No. 0.36;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
```

```
QY      1 TGACTGTGAACGTTGCGAGTGA 22
Db      1 TGACTGTGAACGTTGCGAGTGA 22
```

```
RESULT 30
US-10-340-275-3
/ Sequence 3, Application US/10340275
/ Publication No. US20030143213A1
/ GENERAL INFORMATION:
/ APPLICANT: Raz, Eyal
/ APPLICANT: Cho, Hearn Jay
/ APPLICANT: Richman, Douglas
/ APPLICANT: Horner, Anthony A.
/ TITLE OF INVENTION: Method for Increasing a Cytotoxic T
/ TITLE OF INVENTION: Lymphocyte Response in vivo.
/ FILE REFERENCE: UCAL-188DIY
/ CURRENT APPLICATION NUMBER: US/10/340,275
/ CURRENT FILING DATE: 2003-01-10
/ PRIOR APPLICATION NUMBER: 09/820,484
/ PRIOR FILING DATE: 2001-03-28
/ PRIOR APPLICATION NUMBER: US 60/192,537
/ PRIOR FILING DATE: 2000-03-28
/ PRIOR APPLICATION NUMBER: US 60/203,567
/ PRIOR FILING DATE: 2000-05-11
/ PRIOR APPLICATION NUMBER: US 60/215,895
/ PRIOR FILING DATE: 2000-07-05
/ NUMBER OF SEQ ID NOS: 8
/ SOFTWARE: FaastSeq for Windows Version 4.0
/ SEQ ID NO 3
/ LENGTH: 22
/ TYPE: DNA
/ ORGANISM: Artificial Sequence
/ FEATURE:
/ OTHER INFORMATION: phosphorothioate ISS-ODN
US-10-340-275-3
```

```
Query Match          100.0%; Score 22; DB 15; Length 22;
Best Local Similarity 100.0%; Pred. No. 0.36;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
```

```
QY      1 TGACTGTGAACGTTGCGAGTGA 22
```


Db 1 TGACTGTGAACGTTCCGAGATGA 22

RESULT 31

US-10-339-885-1
; Sequence 1, Application US/10339885
; Publication No. US20030147870A1
; GENERAL INFORMATION:
; APPLICANT: Raz, Eyal
; APPLICANT: Cho, Hearn Jay
; APPLICANT: Richman, Douglas
; APPLICANT: Horner, Anthony A.
; TITLE OF INVENTION: Method for Increasing a Cytotoxic T
; FILE REFERENCE: UCAL-188CON
; CURRENT APPLICATION NUMBER: US/10/339,885
; PRIOR FILING DATE: 2003-01-10
; PRIOR APPLICATION NUMBER: 09/820,484
; PRIOR FILING DATE: 2001-03-28
; PRIOR APPLICATION NUMBER: US 60/192,537
; PRIOR FILING DATE: 2000-03-28
; PRIOR APPLICATION NUMBER: US 60/203,567
; PRIOR FILING DATE: 2000-05-11
; PRIOR APPLICATION NUMBER: US 60/215,895
; PRIOR FILING DATE: 2000-07-05
; NUMBER OF SEQ ID NOS: 8
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 1
; LENGTH: 22
; TYPE: DNA
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Disulfide-linked phosphorothioate ISS-ODN
; NAME/KEY: modified_base
; LOCATION: (1)...(1)
; OTHER INFORMATION: disulfide thymine
US-10-339-885-1

Query Match 100.0%; Score 22; DB 15; Length 22;

Best Local Similarity 100.0%; Pred. No. 0.36; Mismatches 0; Indels 0; Gaps 0;

Qy 1 TGACTGTGAACGTTCCGAGATGA 22
Db 1 TGACTGTGAACGTTCCGAGATGA 22

RESULT 32

US-10-339-885-3
; Sequence 3, Application US/10339885
; Publication No. US20030147870A1
; GENERAL INFORMATION:
; APPLICANT: Raz, Eyal
; APPLICANT: Cho, Hearn Jay
; APPLICANT: Richman, Douglas
; APPLICANT: Horner, Anthony A.
; TITLE OF INVENTION: Method for Increasing a Cytotoxic T
; FILE REFERENCE: UCAL-188CON
; CURRENT APPLICATION NUMBER: US/10/339,885
; PRIOR FILING DATE: 2003-01-10
; PRIOR APPLICATION NUMBER: 09/820,484
; PRIOR FILING DATE: 2001-03-28
; PRIOR APPLICATION NUMBER: US 60/192,537
; PRIOR FILING DATE: 2000-03-28
; PRIOR APPLICATION NUMBER: US 60/203,567
; PRIOR FILING DATE: 2000-05-11
; PRIOR APPLICATION NUMBER: US 60/215,895
; PRIOR FILING DATE: 2000-07-05
; NUMBER OF SEQ ID NOS: 8
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 3

; LENGTH: 22

; TYPE: DNA

; ORGANISM: Artificial Sequence

; FEATURE:

; OTHER INFORMATION: phosphorothioate ISS-ODN
US-10-339-885-3

Query Match 100.0%; Score 22; DB 15; Length 22;
Best Local Similarity 100.0%; Pred. No. 0.36;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 TGACTGTGAACGTTCCGAGATGA 22
Db 1 TGACTGTGAACGTTCCGAGATGA 22

RESULT 33

US-10-176-883-2
; Sequence 2, Application US/10176883
; Publication No. US20030175731A1
; GENERAL INFORMATION:
; APPLICANT: Fearon, Karen
; APPLICANT: Dina, Dino
; APPLICANT: Tuck, Stephen
; TITLE OF INVENTION: CHIMERIC IMMUNOMODULATORY COMPOUNDS AND
; FILE REFERENCE: 377882002000
; CURRENT APPLICATION NUMBER: US/10/176,883
; PRIOR FILING DATE: 2002-06-21
; PRIOR APPLICATION NUMBER: 60/299,883
; PRIOR FILING DATE: 2001-06-21
; PRIOR APPLICATION NUMBER: 60/375,253
; PRIOR FILING DATE: 2002-04-23
; NUMBER OF SEQ ID NOS: 141
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 2
; LENGTH: 22
; TYPE: DNA
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Synthetic construct
US-10-176-883-2

Query Match 100.0%; Score 22; DB 15; Length 22;
Best Local Similarity 100.0%; Pred. No. 0.36;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 TGACTGTGAACGTTCCGAGATGA 22
Db 1 TGACTGTGAACGTTCCGAGATGA 22

RESULT 34

US-10-176-883-24
; Sequence 24, Application US/10176883
; Publication No. US20030175731A1
; GENERAL INFORMATION:
; APPLICANT: Fearon, Karen
; APPLICANT: Dina, Dino
; APPLICANT: Tuck, Stephen
; TITLE OF INVENTION: CHIMERIC IMMUNOMODULATORY COMPOUNDS AND
; FILE REFERENCE: 377882002000
; CURRENT APPLICATION NUMBER: US/10/176,883
; PRIOR FILING DATE: 2002-06-21
; PRIOR APPLICATION NUMBER: 60/299,883
; PRIOR FILING DATE: 2001-06-21
; PRIOR APPLICATION NUMBER: 60/375,253
; PRIOR FILING DATE: 2002-04-23
; NUMBER OF SEQ ID NOS: 141
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 24
; LENGTH: 22

```

; TYPE: DNA
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Synthetic construct
US-10-176-883-24

```

```

Query Match      100.0%; Score 22; DB 15; length 22;
Best Local Similarity 95.5%; Pred. No. 0.36;
Matches 21; Conservative 1; Mismatches 0; Indels 0; Gaps 0
QY      1 TGACGTGACGCTTCGAGATGA 22
        |||||.....:||||||
Db       1 TGACGTGACGCTTCGAGATGA 22

```

```

RESULT 35
US-10-176-883-79
; Sequence 79, Application US/10176883
; Publication No. US20030175731AI
; GENERAL INFORMATION:
; APPLICANT: Fearon, Karen
; APPLICANT: Dina, Dino
; APPLICANT: Tuck, Stephen
; TITLE OF INVENTION: CHEMICR IMMUNOMODULATORY COMPOUNDS AND
; TITLE OF INVENTION: METHODS OF USING THE SAME-I
; FILE REFERENCE: 377882002000
; CURRENT APPLICATION NUMBER: US/10/176,883
; CURRENT FILING DATE: 2002-06-21
; PRIOR APPLICATION NUMBER: 60/299,883
; PRIOR FILING DATE: 2001-06-21
; PRIOR APPLICATION NUMBER: 60/375,253
; PRIOR FILING DATE: 2002-04-23
; NUMBER OF SEQ ID NOS: 141
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 79
; LENGTH: 22
; TYPE: DNA
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Synthetic construct
; US-10-176-883-79

```

```

Query Match      100.0%; Score 22; DB 15; Length 22;
Best Local Similarity 95.5%; Pred. No. 0.36;
Matches 21; Conservative 1; Mismatches 0; Indels 0; Gaps 0

```

```

RESULT 36
US-10-176-883-134
Sequence 134, Application US/10176883
Publication No. US20030175731A1
GENERAL INFORMATION:
APPLICANT: Fearon, Karen
APPLICANT: Dina, Dina
APPLICANT: Tuck, Stephen
TITLE OF INVENTION: CHIMERIC IMMUNOMODULATORY COMPOUNDS AND
TITLE OF INVENTION: METHODS OF USING THE SAME-1
FILE REFERENCE: 377882002000
CURRENT APPLICATION NUMBER: US/10/176, 883
CURRENT FILING DATE: 2002-06-21
PRIOR APPLICATION NUMBER: 60/299, 883
PRIOR FILING DATE: 2001-06-21
PRIOR APPLICATION NUMBER: 60/375, 253
PRIOR FILING DATE: 2002-04-23
NUMBER OF SEQ ID NOS: 141
SOFTWARE: FastSeq for Windows Version 4.0
SEQ ID NO 134
LENGTH: 22
TYPE: DNA

```

```

; ORGANISM: Artificial Sequence
;
; FEATURE:
;
; OTHER INFORMATION: Synthetic construct
US-10-176-883-134

```

	Query Match	100.0%;	Score 22;	DB 15;	Length 22;
	Best Local Similarity	100.0%;	Pred. No. 0.36;		
Matches	22;	Conservative	0;	Mismatches	0;
				Indels	0;
Gy	1 TGACGTGAGCTTCGAGATGA	22			
	1 TCACGTGAGCTTCGAGATGA	22			

```

RESULT 37
US-10-412-151-1
; Sequence 1, Application US/10412151
; Publication No. US20030176389A1
; GENERAL INFORMATION:
; APPLICANT: Raz, Eyal
; APPLICANT: Rachmilewitz, Daniel
; TITLE OF INVENTION: Method for Treating Inflammatory Bowel
; TITLE OF INVENTION: Disease and Other Forms of Gastrointestinal Inflammation
; FILE REFERENCE: UCAL-202CON
; CURRENT APPLICATION NUMBER: US/10/412,151
; CURRENT FILING DATE: 2003-04-11
; PRIOR APPLICATION NUMBER: 09/791,500
; PRIOR FILING DATE: 2001-02-22
; PRIOR APPLICATION NUMBER: 60/184,256
; PRIOR FILING DATE: 2000-02-23
; NUMBER OF SEQ ID NOS: 39
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 1
; LENGTH: 22
; TYPE: DNA
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: synthetic polynucleotide sequence
; OTHER INFORMATION: oligonucleotide primer
; FEATURE:
; OTHER INFORMATION: oligonucleotide primer
; US-10-412-151-1

```

	Query Match	100.0%;	Score 22;	DB 15;	Length 22;
	Best Local Similarity	100.0%;	Pred. No. 0.36;		
Matches	22;	Conservative	0;	Mismatches	0; Indels 0; Gaps 0;
Qy	1 TGACTGTGACGCTTGCAGATGA	22			
		22			
Db	1 TGACTGTGACGCTTGCAGATGA	22			

```

RESULT 38
US-10-177-826-2
; Sequence 2, Application US/10177826
; Publication No. US20030199466A1
; GENERAL INFORMATION:
; APPLICANT: Fearon, Karen
; APPLICANT: Dina, Dino
; APPLICANT: Tuck, Stephen
; TITLE OF INVENTION: CHIMERIC IMMUNOMODULATORY COMPOUNDS AND
; TITLE OF INVENTION: METHODS OF USING THE SAME - II
; FILE REFERENCE: 317862002001
; CURRENT APPLICATION NUMBER: US/10/177,826
; CURRENT FILING DATE: 2002-06-21
; PRIOR APPLICATION NUMBER: 60/299,863
; PRIOR FILING DATE: 2001-06-21
; PRIOR APPLICATION NUMBER: 60/375,253
; PRIOR FILING DATE: 2002-04-23
; NUMBER OF SEQ. ID NOS: 141
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 2
; LENGTH: 22

```

```
; TYPE: DNA
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Synthetic construct
US-10-177-826-2
```

```
Query Match          100.0%; Score 22; DB 15; Length 22;
Best Local Similarity 100.0%; Pred. No. 0.36;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
```

```
QY      1 TGAAGTGAACGTTGAGATGA 22
         |||
Db       1 TGAAGTGAACGTTGAGATGA 22
```

```
RESULT 39
US-10-177-826-24
; Sequence 24, Application US/10177826
; Publication No. US20030199466A1
; GENERAL INFORMATION:
; APPLICANT: Fearon, Karen
; APPLICANT: Dina, Dino
; APPLICANT: Tuck, Stephen
; TITLE OF INVENTION: CHIMERIC IMMUNOMODULATORY COMPOUNDS AND
; FILE REFERENCE: 377882002001
; CURRENT APPLICATION NUMBER: US/10/177,826
; CURRENT FILING DATE: 2002-06-21
; PRIOR APPLICATION NUMBER: 60/299,883
; PRIOR FILING DATE: 2001-06-21
; PRIOR APPLICATION NUMBER: 60/375,253
; PRIOR FILING DATE: 2002-04-23
; NUMBER OF SEQ ID NOS: 141
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 24
; LENGTH: 22
; TYPE: DNA
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Synthetic construct
US-10-177-826-24
```

```
Query Match          100.0%; Score 22; DB 15; Length 22;
Best Local Similarity 95.5%; Pred. No. 0.36;
Matches 21; Conservative 1; Mismatches 0; Indels 0; Gaps 0;
```

```
QY      1 TGAAGTGAACGTTGAGATGA 22
         |||
Db       1 TGAAGTGAACGTTGAGATGA 22
```

```
RESULT 40
US-10-177-826-79
; Sequence 79, Application US/10177826
; Publication No. US20030199466A1
; GENERAL INFORMATION:
; APPLICANT: Fearon, Karen
; APPLICANT: Dina, Dino
; APPLICANT: Tuck, Stephen
; TITLE OF INVENTION: CHIMERIC IMMUNOMODULATORY COMPOUNDS AND
; FILE REFERENCE: 377882002001
; CURRENT APPLICATION NUMBER: US/10/177,826
; CURRENT FILING DATE: 2002-06-21
; PRIOR APPLICATION NUMBER: 60/299,883
; PRIOR FILING DATE: 2001-06-21
; PRIOR APPLICATION NUMBER: 60/375,253
; PRIOR FILING DATE: 2002-04-23
; NUMBER OF SEQ ID NOS: 141
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 79
; LENGTH: 22
; TYPE: DNA
```

```
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Synthetic construct
US-10-177-826-79
```

```
Query Match          100.0%; Score 22; DB 15; Length 22;
Best Local Similarity 95.5%; Pred. No. 0.36;
Matches 21; Conservative 1; Mismatches 0; Indels 0; Gaps 0;
```

```
QY      1 TGAAGTGAACGTTGAGATGA 22
         |||
Db       1 TGAAGTGAACGTTGAGATGA 22
```

```
Search completed: October 30, 2004, 18:32:20
Job time : 214 secs
```

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GenCore version 5.1.6
Copyright (c) 1993 - 2004 Compugen Ltd.

OM nucleic - nucleic search, using sw model

Run on: October 30, 2004, 10:27:42 ; Search time 1474 Seconds

(without alignments)
543.877 Million cell updates/sec

Title: US-09-802-376-1

Perfect score: 22

Sequence: 1 tgaatctgacatctgagatga 22

Scoring table: IDENTITY NUC

Gapop 10.0, Gapext 1.0

Searched: 32822875 seqs, 18219855908 residues

Total number of hits satisfying chosen parameters: 65645750

Minimum DB seq length: 0

Maximum DB seq length: 200000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Listing first 45 summaries

Database :
1: gb_est1:*
2: gb_est2:*
3: gb_hic:*
4: gb_est3:*
5: gb_est4:*
6: gb_est5:*
7: gb_est6:*
8: gb_gsa1:*
9: gb_gsa2:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	18.8	85.5	521	8	BH859011 S5_182b t
2	18.4	83.6	571	4	BM042508 603615795
3	17.8	80.9	492	9	CE751403 tigr-gss-
4	17.8	80.9	561	8	AZ755668 ey02909.x
5	17.8	80.9	867	8	BZ558601 pa98401.2
6	17.8	80.9	961	2	BF971856 602240444
7	17.4	79.1	489	8	AZ060178 RPCI-23-4
8	17.4	79.1	530	8	AZ886419 RPCI-23-1
9	17.2	78.2	374	8	AQ245026 HS_2056.B
10	17.2	78.2	408	8	AZ535502 110300_56
11	17.2	78.2	424	2	BE723539 193384_MA
12	17.2	78.2	427	7	CO514528 833d8043G
13	17.2	78.2	463	1	AU083559 AU083559
14	17.2	78.2	479	1	AU083559 AU083559
15	17.2	78.2	513	4	BJ094274 BJ094274
16	17.2	78.2	515	7	CF447937 EST684282
17	17.2	78.2	519	4	BT796581 H049F08.E
18	17.2	78.2	571	4	BM037907 S114C07.S
19	17.2	78.2	595	4	CC952473 BOICUS2TR
20	17.2	78.2	617	6	CD488495 T10.D04.T
21	17.2	78.2	633	4	BJ808940 BJ808940
22	17.2	78.2	634	7	CR286398 CR286398
23	17.2	78.2	655	6	CD487922 T02_B03.T
24	17.2	78.2	726	6	BM071434 BM071434

C 25	17.2	78.2	767	6	CB685128	CB685128 OSJNE15E
C 26	17.2	78.2	812	6	CB644373	CB644373 OSJNE051
C 27	17.2	78.2	844	6	CB685127	CB685127 OSJNE15E
C 28	17.2	78.2	852	7	CL670249	CL670249 PRI0161C
C 29	17.2	78.2	882	7	CF378583	CF378583 AGENCOURT
C 30	17.2	78.2	972	9	CNS05PD9	AL347814 Tetradon
C 31	17.2	78.2	1028	6	CA139194	CA139194 SE0RT209
C 32	17.2	78.2	1852	9	CL487297	CL487297 SAIL_44_G
C 33	17.2	78.2	2481	3	AK037625	AK037625 Mus muscu
C 34	16.8	76.4	105	1	AA094019	AA094019 c11619.be
C 35	16.8	76.4	496	9	CE537167	CE537167 tigr-gss-
C 36	16.8	76.4	523	8	AZ483488	AZ483488 IM0309M12
C 37	16.8	76.4	526	8	AZ501799	AZ501799 IM0340J17
C 38	16.8	76.4	628	6	CA380211	CA380211 659460 NC
C 39	16.8	76.4	645	6	CB576172	CB576172 AMGNNUC:C
C 40	16.8	76.4	654	7	CO079691	CO079691 GR_Ba42K
C 41	16.8	76.4	678	6	CA373611	CA373611 647793 NC
C 42	16.8	76.4	681	1	AV732648	AV732648 AV732648
C 43	16.8	76.4	705	2	AW916461	AW916461 EST347765
C 44	16.8	76.4	715	7	CK841471	CK841471 UI-R-BJOP
C 45	16.8	76.4	723	6	CB567509	CB567509 AGENCOURT

ALIGNMENTS

RESULT 1
LOCUS BH859011 521 bp DNA linear GSS 13-NOV-2002
DEFINITION S5_182b.t7 Mouse Retroviral Tagged Cancer Gene Database Mus
ACCESION BH859011
VERSION BH859011.1 GI:21709832
KEYWORDS GSS.
SOURCE Mus musculus (house mouse)
ORGANISM Mus musculus
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
1 (bases 1 to 521)

REFERENCE Suzuki,T., Shen,H., Akagi,K., Morse,H.C., Malley,J.D., Naitman,D.O.,
Jenkins,N.A. and Copeland,N.G.
New genes involved in cancer identified by retroviral tagging
J. Nat. Genet. 32 (1), 166-174 (2002)
JOURNAL MEDLINE 22194816
PUBMED 12185365

COMMENT Contact: Copeland NG
Mouse Cancer Genetics Program
National Cancer Institute
Bldg. 539, Rm. 229, Frederick, MD 21702-1201, USA
Tel: 301 846 1260
Fax: 301 846 6666
Email: copeland@ncifcrf.gov
Classes: PCR with specific primers.

FEATURES
source Location/Qualifiers
1..521

/organism="Mus musculus"
/mol_type="genomic DNA"
/db_xref="taxon:10090"
/clone="S5_182b"
/sex="female"
/tissue_type="leukemia"
/clone_lib="Mouse Retroviral Tagged Cancer Gene Database"
/note="Inverse PCR method
(http://genome2.ncifcrf.gov/RTCD)"

ORIGIN

Query Match 85.5%; Score 18.8; DB 8; Length 521;
Best Local Similarity 90.9%; Pred. No. 88;
Matches 20; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

QY 1 TGAATCTGAAAGTTGCAATGA 22
|||||
DB 116 TGAATCTGAAAGTTGCAATGA 137

RESULT 2
LOCUS BM042508 571 bp mRNA linear EST 07-NOV-2001
DEFINITION 603615795T1 NIH_MGC_112 Homo sapiens CDNA clone IMAGE:5420734 3',
mRNA sequence.
ACCESSION BM042508
VERSION BM042508.1 GI:16771788
KEYWORDS EST.
SOURCE Homo sapiens (human)
ORGANISM Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Homnidae; Homo.
REFERENCE NIH-MGC http://mgs.nci.nih.gov/
1 (bases 1 to 571)
TITLE National Institutes of Health, Mammalian Gene Collection (MGC)
JOURNAL Unpublished (1999)
COMMENT Contact: Robert Strausberg, Ph.D.
Email: cgabs-r@mail.nih.gov
Tissue Procurement: DCTD/DRP
CDNA Library Preparation: Ling Hong/Rubin Laboratory
CDNA Library Arrayed by: The I.M.A.G.E. Consortium (LLNL)
DNA Sequencing by: Incyte Genomics, Inc.
Clone distribution: MGC clone distribution information can be
found through the I.M.A.G.E. Consortium/LLNL at:
http://image.llnl.gov
Plate: LLCM1875 row: m column: 23
High quality sequence start: 44
High quality sequence stop: 411.
Location/Qualifiers
1..571
/organism="Homo sapiens"
/mol_type="mRNA"
/db_xref="taxon:9606"
/clone="IMAGE:5420734"
/tissue_type="melanotic melanoma, cell line"
/lab_host="DH10B (phage-resistant)"
/clone_lib="NIH MGC 112"
/note="Organ: skin; Vector: pOT87; Site 1: XhoI; Site 2:
EcoRI; cDNA made by oligo-dT priming. Directionally cloned
into EcoRI/XhoI sites using the following 5' adaptor:
GGACGAG(G). Library constructed by Ling Hong in the
Laboratory of Gerald M. Rubin (University of California,
Berkeley) using ZAP-CDNA synthesis kit (Stratagene) and
Superscript II RT (Life Technologies). Note: this is a
NIH_MGC Library."

ORIGIN
Query Match 83.6%; Score 18.4; DB 4; Length 571;
Best Local Similarity 95.0%; Pred. No. 1.4e+02;
Matches 19; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

QY 1 TGACTGTGAACGTTCCAGAT 20
|||||
Db 504 TGACTGTGAACGTTCTAGAT 523
|||||

RESULT 3
LOCUS CE751403 492 bp DNA linear GSS 30-SEP-2003
DEFINITION tigr-gss-dog-17000369615400 Dog Library Canis familiaris genomic,
genomic survey sequence.
ACCESSION CE751403
VERSION CE751403.1 GI:37092020
KEYWORDS GSS.
SOURCE Canis familiaris (dog)
ORGANISM Canis familiaris
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Carnivora; Fissipedia; Canidae; Canis.
REFERENCE 1 (bases 1 to 492)
Kirkness,E.F., Bafna,V., Halpern,A.L., Levy,S., Remington,K.,
Rusch,D.B., DeCher,A.L., Pop,W., Wang,W., Fraser,C.M. and

Venter,J.C.
TITLE The dog genome: survey sequencing and comparative analysis
JOURNAL Science 301 (5641), 1898-1903 (2003)
MEDLINE 22875432
PUBMED 14512627
COMMENT Contact: Kirkness EF
The Institute for Genomic Research
Department of Eukaryotic Genomics, TIGR, 9712 Medical Center Drive,
Rockville, MD 20850, USA
Tel: 301-838-0200
Fax: 301-838-0208
Email: ekirkness@tigr.org
Class: shotgun.
Features
source
1..492
Location/Qualifiers
/organism="Canis familiaris"
/mol_type="genomic DNA"
/strain="Standard Poodle"
/db_xref="taxon:9615"
/clone_lib="Dog Library"
/note="Site 1: BstXI; Libraries were prepared from
peripheral blood"

ORIGIN
Query Match 80.9%; Score 17.8; DB 9; Length 492;
Best Local Similarity 90.5%; Pred. No. 2.9e+02;
Matches 19; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

QY 1 TGACTGTGAACGTTCCAGATG 21
|||||
Db 36 TGACTGTGAACGTTCCAGATG 16
|||||

RESULT 4
LOCUS AZ755668/c 561 bp DNA linear GSS 01-MAR-2001
DEFINITION ev02g09.x1 PAX3 CASTING Library 'ev' Homo sapiens genomic clone
ev02g09 random, genomic survey sequence.
ACCESSION AZ755668
VERSION AZ755668.1 GI:13175090
KEYWORDS GSS.
SOURCE Homo sapiens (human)
ORGANISM Homo sapiens
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Homnidae; Homo.
REFERENCE 1 (bases 1 to 561)
Barber,T.D., Barber,M.C., Tomescu,O., Barr,F.G., Ruben,S. and
Friedman,T.B.
TITLE Identification of Target Genes Regulated by PAX3 and PAX3--FGR in
Embryogenesis and Alveolar Rhabdomyosarcoma
JOURNAL Genomics 79 (3), 278-284 (2002)
MEDLINE 21853298
PUBMED 11863357
COMMENT Contact: Friedman TB
Laboratory of Molecular Genetics
National Institute on Deafness and Other Communication Disorders,
National Institutes of Health
5 Research Court, Room 2A-15, Rockville, MD 20850, USA
Tel: 301 402 7580
Fax: 301 496 7882
Email: friedman@nidcd.nih.gov
Plate: 02 row: 9 column: 09
Seq primer: -21M13 forward primer (AB1)
Class: random plasmid subclone.
Features
source
1..561
Location/Qualifiers
/organism="Homo sapiens"
/mol_type="genomic DNA"
/db_xref="taxon:9606"
/clone="ev02g09"
/sex="Male"
/lab_host="DH10B"
/clone_lib="PAX3 CASTING Library 'ev'"

/note="Vector: pGEM-T Easy; Human genomic DNA was partially digested with Sau3aI, ligated to ds linkers, and enriched for binding to human PAX3d0+ protein using a Whole Genome PCR-based strategy. DNA fragments containing putative PAX3d0+ binding sites were amplified by PCR and cloned into pGEM-T Easy (Promega). The ligation products were transformed into DH10B electrocompetent cells (Life Technologies)."

ORIGIN

Query Match 80.9%; Score 17.8; DB 8; Length 561;
Best Local Similarity 90.5%; Pred. No. 2.9e+02;
Matches 19; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

QY 1 TGACTGTGAACGTTCCGAGATG 21
|||||
Db 461 TGACTGTGAACGTTCCGAGATG 441

RESULT 5
B2558601
LOCUS B2558601.292.s1 pac82-164 Pseudomonas aeruginosa genomic clone
DEFINITION
ACCESSION B2558601
VERSION B2558601.1 GI:27173329
KEYWORDS
SOURCE GSS.
ORGANISM Pseudomonas aeruginosa

REFERENCE

Pseudomonas aeruginosa
Bacteria; Proteobacteria; Gammaproteobacteria; Pseudomonadales;
Pseudomonadaceae; Pseudomonas.

AUTHORS

Spencer, D.H., Raymond, C.K., Smith, E.E., Sims, E.E., Hastings, M.,
Burns, J.L., Kaul, R. and Olsen, M.V.

TITLE

Whole-Genome-Sequence Variation among multiple isolates of

JOURNAL

Pseudomonas aeruginosa library

COMMENT

J. Bacteriol. (2002) In press

Contact: Chris K. Raymond

Genome Center

University of Washington

Box 352145, Seattle, WA 98105-2145, USA

Tel: 2062216954

Fax: 2066857244

Email: craymond@u.washington.edu

Class: shotgun.

Location/Qualifiers

1. .867

/organism="Pseudomonas aeruginosa"

/mol_type="genomic DNA"

/strain="2-164"

/db_xref="taxon:287"

/clone="pa98401_292"

/clone_1b="pac82-164"

/note="clinical isolate 2-164 whole genomic shotgun library."

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KEYWORDS

EST.
Homo sapiens (human)

SOURCE

Homo sapiens

ORGANISM

Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;

REFERENCE

Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.

AUTHORS

1 (bases 1 to 961)

TITLE

NIH-MGC http://mgs.nci.nih.gov/.

JOURNAL

National Institutes of Health, Mammalian Gene Collection (MGC)

COMMENT

Unpublished (1999)

CONTACT

Contact: Robert Strausberg, Ph.D.

EMAIL

Email: cgabbs-remail.nih.gov

TISSUE

Tissue Procurement: ATCC

CDNA

CDNA Library Preparation: Ling Hong/Rubin Laboratory

DNA

CDNA Library Arrayed by: The I.M.A.G.E. Consortium (LLNL)

SEQUENCING

DNA Sequencing by: Incyte Genomics, Inc.

CLONE

Clone distribution: MGC clone distribution information can be

FOUND

found through the I.M.A.G.E. Consortium/LLNL at:

HTTP

http://image.llnl.gov

PLATE

Plate: L1CM1189 row: h column: 11

HIGH

High quality sequence stop: 555.

LOCATION

Location/Qualifiers

FEATURES

1. .961

SOURCE

/organism="Homo sapiens"

MOL

/mol_type="mRNA"

DB

/db_xref="taxon:9606"

CLONE

/clone="IMAGE:4328890"

TISSUE

/tissue_type="leiomyosarcoma cell line"

CLONE

/clone_1b="NIH_MGC_46"

NOTE

/note="Organ: uterus; Vector: pOTB7; Site_1: XhoI; Site_2:

ECORI

ECORI; CDNA made by oligo-dT priming. Directionally cloned

GGC

into EcoRI/XhoI sites using the following 5' adaptor:

GGC

GGCAGGAG(G). Size-selected 3500bp for average insert size

1.8kb

1.8kb. Library constructed by Ling Hong in the laboratory

OF

of Gerald M. Rubin (University of California, Berkeley)

USING

using ZAP-CDNA synthesis kit (Stratagene) and Superscript

II

RT (Life Technologies). Note: this is a NIH_MGC

LIBRARY

Library."

ORIGIN

Query Match 80.9%; Score 17.8; DB 2; Length 961;
Best Local Similarity 90.5%; Pred. No. 3.2e+02;
Matches 19; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

QY

2 GACTGTGAACGTTCCGAGATGA 22
|||||

DB

650 GACTGTGAACGTTCCGAGATGA 670

RESULT

7

LOCUS

AZ060178/c 489 bp DNA linear GSS 30-MAR-2000

DEFINITION

RPCT-23-405E23.TV RPCT-23 Mus musculus genomic clone

ACCESSION

RPCT-23-405E23, genomic survey sequence.

VERSION

AZ060178

KEYWORDS

AZ060178.1 GI:7351427

SOURCE

GSS.

ORGANISM

Mus musculus (house mouse)

REFERENCE

Mus musculus

AUTHORS

Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;

TITLE

Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.

JOURNAL

1 (bases 1 to 489)

COMMENT

Zhao, S., Nierman, W., Feldblum, T., Malek, J., Shatman, S.,
Akintet, B., Levine, M., McGam, S., Tsegaye, G., Geer, K., Krol, M., de
Jong, P. and Fraser, C.M.
Mouse BAC End Sequences from library RPCT-23
Unpublished (1999)
Other GSSs: RPCT-23-405E23.TV
Contact: Shaying Zhao
Department of Eukaryotic Genomics
The Institute for Genomic Research
9712 Medical Center Dr., Rockville, MD 20850, USA
Tel: 301 838 0200

Fax: 301 838 0208
Email: szhao@tigr.org
Clones are derived from the mouse BAC library RPCI-23. For BAC library availability, please contact Pieter de Jong (pieterdejong.med.buffalo.edu). Clones may be purchased from BACPAC Resources (http://bacpac.med.buffalo.edu/orderingframe.htm) or from Resea ch Genetics (info@resgen.com). BAC end page: http://www.tigr.org/tdb/bac_ends/mouse/bac_end_intro.html
Plate: 405 row: E column: 23
Seq primer: SP6
Class: BAC ends.

FEATURES
source Location/Qualifiers
1..489
/organism="Mus musculus"
/mol_type="genomic DNA"
/strain="C57BL/6J"
/db_xref="taxon:10090"
/clone="RPCI-23-405E23"
/sex="Female"
/lab_host="DH10B"
/clone_1lb="RPCI-23"
/note="Organ: Kidney/Brain; Vector: pBACe3.6; Site 1: EcoRI; Site 2: EcoRI; Female C57BL/6J mouse kidney and/or brain genomic DNA was isolated and partially digested with a combination of EcoRI and EcoRI Methylase. Size selected DNA was cloned into the pBACe3.6 vector at the EcoRI sites. The ligation products were transformed into DH10B electrocompetent cells (BRL Life Technologies)."

ORIGIN
Query Match 79.1%; Score 17.4; DB 8; Length 489;
Best Local Similarity 94.7%; Pred. No. 4.7e+02;
Matches 18; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

QY 1 TGACTGTGAACGTTGAGA 19
|||||
170 TGACTGTGAACATTGAGA 152

Db

RESULT 8
LOCUS AZ886419 530 bp DNA linear GSS 05-MAR-2001
DEFINITION RPCI-23-18216.TU RPCI-23 Mus musculus genomic clone RPCI-23-18216,
genomic survey sequence.
ACCESSION AZ886419
VERSION AZ886419
KEYWORDS GSS.
SOURCE Mus musculus (house mouse)
ORGANISM Mus musculus
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
1 (bases 1 to 530)
Zhao, S., Nieman, W., Felblyum, T., Malek, J., Shatsman, S., Akinet, B., Levine, M., McGann, S., Tsegaye, G., Geer, K., Krol, M., de Jong, P. and Fraser, C. M.
Mouse BAC End Sequences from Library RPCI-23
Unpublished (1999)
Other GSSs: RPCI-23-18216.TV
Contact: Shaying Zhao
Department of Eukaryotic Genomics
The Institute for Genomic Research
9712 Medical Center Dr., Rockville, MD 20850, USA
Tel: 301 838 0200
Fax: 301 838 0208
Email: szhao@tigr.org
Clones are derived from the mouse BAC library RPCI-23. For BAC library availability, please contact Pieter de Jong (pieterdejong.med.buffalo.edu). Clones may be purchased from BACPAC Resources (http://www.chori.org/bacpac/orderingframe.htm). BAC end page: http://www.tigr.org/tdb/bac_ends/mouse/bac_end_intro.html
Plate: 182 row: I column: 6
Seq primer: SP6
Class: BAC ends.

TITLE
JOURNAL
COMMENT

FEATURES
source Location/Qualifiers
1..530
/organism="Mus musculus"
/mol_type="genomic DNA"
/strain="C57BL/6J"
/db_xref="taxon:10090"
/clone="RPCI-23-18216"
/sex="Female"
/lab_host="DH10B"
/clone_1lb="RPCI-23"
/note="Organ: Kidney/Brain; Vector: pBACe3.6; Site 1: EcoRI; Site 2: EcoRI; Female C57BL/6J mouse kidney and/or brain genomic DNA was isolated and partially digested with a combination of EcoRI and EcoRI Methylase. Size selected DNA was cloned into the pBACe3.6 vector at the EcoRI sites. The ligation products were transformed into DH10B electrocompetent cells (BRL Life Technologies)."

ORIGIN
Query Match 79.1%; Score 17.4; DB 8; Length 530;
Best Local Similarity 94.7%; Pred. No. 4.7e+02;
Matches 18; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

QY 1 TGACTGTGAACGTTGAGA 19
|||||
189 TGACTGTGAACATTGAGA 171

Db

RESULT 9
LOCUS AQ245026 374 bp DNA linear GSS 03-OCT-1998
DEFINITION HS_2056_B1_E03_MR CIT Approved Human Genomic Sperm Library D Homo sapiens genomic clone Plate=2056 Col=5 Row=J, genomic survey sequence.
ACCESSION AQ245026
VERSION AQ245026
KEYWORDS GSS.
SOURCE Homo sapiens (human)
ORGANISM Homo sapiens
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Primates; Catarrhini; Homidae; Homo.
1 (bases 1 to 374)
Mahairas, G.G., Wallace, J.C., Smith, K., Swartzell, S., Holzman, T., Keller, A., Shaker, R., Furlong, J., Young, J., Zhao, S., Adams, M.D. and Hood, L.
Sequence-tagged connectors: A sequence approach to mapping and scanning the human genome
Proc. Natl. Acad. Sci. U.S.A. 96 (17), 9739-9744 (1999)
99380589
10449764
Contact: Mahairas GG, Wallace JC, Hood L
High Throughput Sequencing Center
University of Washington
401 Queen Anne Avenue North, Seattle, WA 98109, USA
Tel: (206) 616-3618
Fax: (206) 616-3887
Email: jwallace@u.washington.edu
Sequence Tagged Connector
Plate: 2056 row: J column: 5
Class: BAC ends
High quality sequence stop: 374.
Location/Qualifiers
1..374
/organism="Homo sapiens"
/mol_type="genomic DNA"
/db_xref="taxon:9606"
/clone="Plate=2056 Col=5 Row=J"
/sex="male"
/clone_1lb="CIT Approved Human Genomic Sperm Library D"
/note="Organ: sperm; Vector: pBelobAC11; BAC Clones in E-Coli DH10B"

TITLE
JOURNAL
COMMENT

ORIGIN

Query Match 78.2%; Score 17.2; DB 8; Length 374;
Best Local Similarity 86.4%; Pred. No. 5.6e+02;
Matches 19; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

QY 1 TGACTGTGAACGTTGAGATGA 22
|||||
Db 207 TGACTGTGAACGTTGAGATGA 228

RESULT 10
AZ536502 408 bp DNA linear GSS 03-NOV-2000
LOCUS 110300.96 Planococcus 11iacinus DNA Planococcus 11iacinus genomic,
DEFINITION genomic survey sequence.
ACCESSION AZ536502
VERSION AZ536502.1 GI:11093449
KEYWORDS GSS.
SOURCE Planococcus 11iacinus (11lac mealybug)
ORGANISM Planococcus 11iacinus
Eukaryota; Metazoa; Arthropoda; Hexapoda; Insecta; Pterygota;
Neoptera; Paraneoptera; Hemiptera; Sternorrhyncha; Aphidiformes;
Coccidea; Pseudococcidae; Planococcus.
1 (bases 1 to 408)

REFERENCE
AUTHORS Mohan,K.N. and Chandra,H.S.
TITLE Mealybug shotgun sequencing
JOURNAL Unpublished (2000)
COMMENT Contact: Mohan KN
Microbiology and Cell Biology
Indian Institute of Science
Sir C.V. Raman Avenue, Bangalore, Karnataka 560012, India
Email: mohan@mcbl.iisc.ernet.in
Class: shotgun.

FEATURES
source 1..408
Location/Qualifiers
/organism="Planococcus 11iacinus"
/mol_type="genomic DNA"
/db_xref="taxon:40930"
/clone_lib="Planococcus 11iacinus DNA"

ORIGIN

Query Match 78.2%; Score 17.2; DB 8; Length 408;
Best Local Similarity 86.4%; Pred. No. 5.7e+02;
Matches 19; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

QY 1 TGACTGTGAACGTTGAGATGA 22
|||||
Db 251 TGACTGTGAACGTTGAGATGA 272

RESULT 11
BE723539 424 bp mRNA linear EST 25-APR-2001
LOCUS BE723539
DEFINITION 193384 MARC 4BOV Bos taurus cDNA 5', mRNA sequence.
ACCESSION BE723539
VERSION BE723539.1 GI:10124826
KEYWORDS EST.
SOURCE Bos taurus (cow)
ORGANISM Bos taurus
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovidae;
Bovinae; Bos.
1 (bases 1 to 424)
Smith,T.P.L., Grosse,W.M., Freking,B.A., Roberts,A.J., Stone,R.T.,
Casas,E., Wray,J.E., White,J., Cho,J., Fahrenkrug,S.C.,
Bennett,G.L., Heaton,M.P., Laegreid,W.W., Rohrer,G.A.,
Chitko-Mckown,C.G., Perlea,G., Holt,I., Karaycheva,S., Liang,F.,
Quackenbush,J. and Keefe,J.W.
Sequence evaluation of four pooled-tissue normalized bovine cDNA
libraries and construction of a gene index for cattle
Genome Res. 11 (4), 626-630 (2001)

TITLE
JOURNAL
MEDLINE
PUBMED
COMMENT
Contact: Smith TPL

USDA, ARS, US Meat Animal Research Center
PO Box 166, Clay Center, NE 68933-0166, USA
Tel: 402 762 4366
Fax: 402 762 4390
Email: smith@email.marc.usda.gov
Single pass sequencing. Bases called and alt trimmed with phred
v0.980904.e. Vector identified by cross_match with the -minscore 18
and -minmatch 12 options.

PCR Primers
FORWARD: AGGAACAGCTATGACCAT
BACKWARD: GTTTCGAGCAGCAGC
Plate: 92 row: B column: 14
Seq primer: ATTTCGTGACCTATGAC.
Location/Qualifiers

FEATURES
source 1..424
/organism="Bos taurus"
/mol_type="mRNA"
/db_xref="taxon:9913"
/clone_lib="pooled"
/lab_host="DH10B"
/clone_lib="MARC 4BOV"
/note="Vector: pCMV SPORT6; Site 1: NotI; Site 2: SalI;
library made from pooled tissue from day 20 and day 40
embryos."

ORIGIN

Query Match 78.2%; Score 17.2; DB 2; Length 424;
Best Local Similarity 86.4%; Pred. No. 5.8e+02;
Matches 19; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

QY 1 TGACTGTGAACGTTGAGATGA 22
|||||
Db 268 TGACTGTGAACGTTGAGATGA 289

RESULT 12
COS14528 427 bp mRNA linear EST 15-JUL-2004
LOCUS COS14528/c
DEFINITION 813SG43G0800066_327716 Glandular trichomes Medicago sativa cDNA,
mRNA sequence.
ACCESSION COS14528
VERSION COS14528.1 GI:50319402
KEYWORDS EST.
SOURCE Medicago sativa
ORGANISM Medicago sativa
Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;
Spermatophyta; Magnoliophyta; eudicotyledons; core eudicots;
rosids; eurosids I; Fabales; Fabaceae; Papilionoideae; Trifoliaceae;
Medicago.
1 (bases 1 to 427)

REFERENCE
AUTHORS Aziz,N., May,G.D., Paiva,N.L. and Dixon,R.A.
TITLE Alfalfa trichome Expressed Sequence Tags from the Samuel Roberts
Noble Foundation - Center for Medicago Genomics Research
JOURNAL Unpublished (2004)
COMMENT Contact: May GD
Plant Biology Division
The Samuel Roberts Noble Foundation
2510 Sam Noble Parkway, Ardmore, OK 73402, USA
Tel: 580 224 6650
Fax: 580 224 6692
Email: gdmay@noble.org.
Location/Qualifiers

FEATURES
source 1..427
/organism="Medicago sativa"
/mol_type="mRNA"
/db_xref="taxon:3879"
/clone_lib="Glandular trichomes isolated from stem"
/dev_stage="Trichomes were removed from internodes of 8-12
inch tall stems"
/clone_lib="Glandular trichomes"
/note="Vector: pDNR-LIB; Glandular-haired alfalfa plants
were established in a Conviron growth chamber (16-h days,
full lights, 24oc set point) in 40 one gallon pots. Plants

were grown in Metromix 350 and fertilized with MiracleGro as needed. They were cut back closely to encourage the emergence of vigorous shoots. Trichomes were isolated from stems, approximately 8-12 inches long, clipped from plants 2-3 inches above the crown. With minimal handling of the stem, the apical bud, leaves and nodes were discarded, and the trichomes isolated from the internode segments."

ORIGIN

Query Match 78.2%; Score 17.2; DB 7; Length 427;
Best Local Similarity 86.4%; Pred. No. 5.9e+02;

Matches 19; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

QY 1 TGACTGTGAACGTTTCAGATGA 22
|||||

Db 198 TGATGTGAACGTTTCAGATGA 177
|||||

RESULT 13 463 bp mRNA linear EST 02-APR-2002
LOCUS AU083559
DEFINITION AU083559 Rice green shoot Oryza sativa (japonica cultivar-group)
CDNA clone S14862, mRNA sequence.

ACCESSION AU083559
VERSION AU083559.1 GI:7274015
KEYWORDS EST.

SOURCE Oryza sativa (japonica cultivar-group)
ORGANISM Oryza sativa (japonica cultivar-group)

REFERENCE Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;
Spermatophyta; Magnoliophyta; Liliopsida; Poales; Poaceae;
Ehrhartoideae; Oryzaceae; Oryza.

1 (bases 1 to 463)
Sasaki, T. and Yamamoto, K.

Rice cDNA from green shoot (2000)
Unpublished (2000)

COMMENT Contact: Takuji Sasaki
National Institute of Agrobiological Resources
Rice Genome Research Program, Kannondai 2-1-2, Tsukuba, Ibaraki
305-8602, Japan
Tel: 81-298-38-7441
Fax: 81-298-38-7468
Email: tsasaki@abrr.affrc.go.jp, URL: http://rgp.dna.affrc.go.jp/
PROJECT = 'RGP'.

FEATURES
source Location/Qualifiers

1..463
/organism="Oryza sativa (japonica cultivar-group)"
/mol_type="mRNA"
/cultivar="Nipponbare"
/db_xref="taxon:39947"
/clone="S14862"
/clone_1lb="Rice green shoot"
/note="Green shoot (8 days old)"

ORIGIN

Query Match 78.2%; Score 17.2; DB 1; Length 463;
Best Local Similarity 86.4%; Pred. No. 5.9e+02;

Matches 19; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

QY 1 TGACTGTGAACGTTTCAGATGA 22
|||||

Db 151 TGAGTGTGAATGTTAGAGATGA 172
|||||

RESULT 14 479 bp mRNA linear EST 02-APR-2002
LOCUS AU089685
DEFINITION AU089685 Rice callus Oryza sativa (japonica cultivar-group) cDNA
clone C40060, mRNA sequence.

ACCESSION AU089685
VERSION AU089685.1 GI:7652165
KEYWORDS EST.

SOURCE Oryza sativa (japonica cultivar-group)
ORGANISM Oryza sativa (japonica cultivar-group)

Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;
Spermatophyta; Magnoliophyta; Liliopsida; Poales; Poaceae;
Ehrhartoideae; Oryzaceae; Oryza.

1 (bases 1 to 479)
Sasaki, T. and Yamamoto, K.

Rice cDNA from callus (2000)
Unpublished (2000)

COMMENT Contact: Takuji Sasaki
National Institute of Agrobiological Resources
Rice Genome Research Program, Kannondai 2-1-2, Tsukuba, Ibaraki
305-8602, Japan
Tel: 81-298-38-7441
Fax: 81-298-38-7468
Email: tsasaki@abrr.affrc.go.jp, URL: http://rgp.dna.affrc.go.jp/
PROJECT = 'RGP'.

FEATURES
source Location/Qualifiers

1..479
/organism="Oryza sativa (japonica cultivar-group)"
/mol_type="mRNA"
/cultivar="Nipponbare"
/db_xref="taxon:39947"
/clone="C40060"
/clone_1lb="Rice callus"
/note="Vector: pBluescript II SK+; Site 1: SalI; Site 2:
NotI; cDNA prepared from rice callus mRNA by using
oligo(dT) as a primer and ligating to the SalI-NotI site
of pBluescript II SK+ phagemid."

ORIGIN

Query Match 78.2%; Score 17.2; DB 1; Length 479;
Best Local Similarity 86.4%; Pred. No. 5.9e+02;

Matches 19; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

QY 1 TGACTGTGAACGTTTCAGATGA 22
|||||

Db 299 TGAGTGTGAATGTTAGAGATGA 320
|||||

RESULT 15 513 bp mRNA linear EST 01-OCT-2003
LOCUS BJ094274
DEFINITION BJ094274 NIBB Mochii normalized Xenopus early gastrula library
Xenopus laevis cDNA clone XL14p18 5', mRNA sequence.

ACCESSION BJ094274
VERSION BJ094274.1 GI:17594227
KEYWORDS EST.

SOURCE Xenopus laevis (African clawed frog)
ORGANISM Xenopus laevis

REFERENCE Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Amphibia; Batrachia; Anura; Mesobatrachia; Pipidae; Pipidae;
Xenopodinae; Xenopus; Xenopus.

1 (bases 1 to 513)
Kitayama, A., Terasaka, C., Mochii, M., Ueno, N., Shin-i, T. and
Kohara, Y.

Expressed genes in X. laevis embryo
Unpublished (2001)
Contact: Tadao Shin-i
Center For Genetic Resource Information
National Institute of Genetics
1111 Yata, Mishima, Shizuoka 411-8540, Japan
Tel: 81-559-81-6856
Fax: 81-559-81-6855
Email: tshini@gens.nig.ac.jp
The information of this clone is available through the following
URL.
http://xenopus.nibb.ac.jp.
Location/Qualifiers

FEATURES
source

1..513
/organism="Xenopus laevis"
/mol_type="mRNA"
/db_xref="taxon:8355"
/clone="XL14p18"
/tissue_type="whole embryo"

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/dev_stage="stage 10.5"
/clone_lib="NIBS Mochi normalized Xenopus early gastrula
library"

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Query Match	78.2%	Score 17.2;	DB 4;	Length 513;
Best Local Similarity	86.4%;	Pred. No. 6e+02;		
Matches 19; Conservative	0;	Mismatches 3;	Indels 0;	Gaps 0

QY 1 TGA CTGTGA ACCTTGCAGATGA 22
 |||||
Db 198 TGCCTGAGA C GTCGCGATGA 219

RESULT 16					
CP447937					
LOCUS	CP447937	515 bp	mRNA	linear	EST 04-SEP-2003
DEFINITION	EST6864282 normalized cDNA library of onion Allium cepa cDNA clone				
	ACABF87, mRNA sequence.				

ACCESSION	CP447937	GI:34470639
VERSION	CP447937.1	
KEYWORDS	EST.	
SOURCE	Allium cepa	(onion)
ORGANISM	Allium cepa	

REFERENCE
AUTHORS
TITLE
JOURNAL
COMMENT

1 (bases 1 to 515)
Havey M.J., Cheung, F., Van Aken, S., Uteerpack, T. and Town, C.D.
Expressed Sequence Tags from a normalized library of mixed onion
tissues (Allium cepa)
Unpublished (2003)
Contact: Havey MJ

Department of Horticulture
USDA-ARS and University of Wisconsin
1575 Linden Drive, Madison, WI 53706, USA
Tel: 608-262-1830
Fax: 608-262-4743
Email: mjhavey@facstaff.wisc.edu
Tiger sequence name ACAB877R. For more information:
<http://jhavelyab.hort.wisc.edu>
Seq primer: CAG GAA ACA GCT ATG ACC.

```

FEATURES
SOURCE
LOCATION/Qualifiers
1..515
/organism="Allium cepa"
/mol_type="mRNA"
/cultivar="Red Creole(bulbs), unknown(callus), Ebano &
Texas Legend(roots)"
/db_xref="taxon:4679"
/clone="ACABF87"
/tissue_type="Callus, roots, and young bulbs"
/clone_lib="normalized cDNA library of onion"
/notes="Vector: pCMWSPORT6.1-ccdb (Invitrogen); Site_1:
EcoRV (5'); Site_2: NotI (3'); Equal molar amounts of mRNA
from callus, roots, and young bulbs were combined to
synthesize the library. Normalization to enrich for
low-copy transcripts was performed by proprietary
techniques of Invitrogen."

```

RESULT 17			
BI796581			
LOCUS	BI796581	519 bp	mRNA linear EST 02-OCT-2001
DEFINITION	H049F08 Endosperm library from <i>Oryza sativa</i> (10 days after		

ACCESSION	anthesi5) Oryza sativa cDNA clone H049F08, mRNA sequence
VERSION	BI796581
KEYWORDS	BI796581.1 GI:15848305
SOURCE	EST.
	Oryza sativa

ORGANISM
Oryza sativa
Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;
Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;
Spermatophyta; Magnoliophyta; Liliopsida; Poales; Poaceae;
Eubartholideae; Oryzeae; Oryza.
1/5/2000 1 to 5101
#####

REFERENCES
 1. Luwee J, Li D, Dong H, et al. 2001. Wu H, F., Jiang Y, X., Yu, F. C., Gao, Q. K. and Lou, Y. C. A Gene Expression Screen in *Oryza sativa* Unpublished (2001)
TITLE
 JOURNAL
 COMMENT
 Contact: Haitao Dong, Debao Li
 Bioinformatics and Gene Network Research Group
 Zhejiang University
 Kaiyuan Road 268#, Hangzhou, Zhejiang, P.R. China
 Tel: 0086-571-86892051
 Fax: 0086-571-86961525
 Email: webnaes@estarray.org, URL: <http://www.estarray.org>
FEATURES
 Seq primer: M13 forward primer.
 Location/Qualifiers
 1. 519
 source

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/organism="Oryza sativa"
/mol_type="mRNA"
/db_xref="taxon:4530"
/clone="H049F08"
/tissue_type="Endosperm"
/dev_stage="10 days after anthesis"
/clone_lib="Endosperm library from Oryza sativa (10 days
after anthesis)"
/note="Vector: pSport2"

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Query Match          78.2%; Score 17.2; DB 4; Length 519;
Best Local Similarity 86.4%; Pred. No. 6e+02;
Matches 19; Conservative 0; Mismatches 3; Indels 0; Gaps 0
OY      1 TGACTGTGAACGTTGAGATGA 22
        ||| ||||| ||| |||||
Db      266 TGAAGTGTGAATGTTAGAGATGA 287

RESULT 18
BM037907          571 bp      mRNA      linear      EST 06-NOV-2000
LOCUS            BM037907
DEFINITION      BM037907 Stem library from Oryza sativa (3-5 leaf stage) Oryza
                  sativa cDNA clone S114c07, mRNA sequence.

```

ACCESSION EM033907
 VERSION EM033907.1 GI:16753528
 KEYWORDS
 SOURCE
 ORGANISM
 Oryza sativa
 EST.
 Oryza sativa
 Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;
 Spermatophyta; Magnoliophyta; Liliopsida; Poales; Poaceae;
 Ehrhartoideae; Oryzaceae; Oryza.

REFERENCE	AUTHORS	TITLE	JOURNAL	COMMENT
1 (bases 1 to 571)	Dong,H.T., Li,D.B., Zhuang,X.F., Dai,C.G., Sun,L.X., Pei,Y.X., Wu,H.F., Jiang,Y.X., Yu,F.C., Gao,Q.K. and Lou,Y.C.	A Gene Expression Screen in <i>Oryza sativa</i>	Unpublished (2001)	Contact: Haitao Dong, Debao Li Bioinformatics and Gene Network Research Group Zhejiang University Kaixuan Road 268#, Hangzhou, Zhejiang, P.R.China Tel: 0086-571-86892051 Fax: 0086-571-86861525 Email: webnas@sestarrray.org, URL: http://www.sestarrray.org Seq primer: M3 forward primer. Location/Qualifiers 1..571 /organism="Oryza sativa"

/mol_type="mRNA"
/db_xref="taxon:4530"
/clone="S14C07"
/issue_type="Stem"
/dev_stage="3-5 leaf stage"
/clone_lib="Stem library from Oryza sativa (3-5 leaf stage)"
/note="Vector: pSport2"

Query Match 78.2%; Score 17.2; DB 4; Length 571;
Best Local Similarity 86.4%; Pred. No. 6.1e+02;
Matches 19; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

Qy 1 TGACTGTGAACGTTTCGAGATGA 22
|||||
Db 179 TGACTGTGAATGTTTCGAGATGA 200

RESULT 19
CC952473 595 bp DNA linear GSS 18-AUG-2003
LOCUS BOICU52TR_BO_1.4_1.6_KB_nuc.Brassica oleracea genomic clone
DEFINITION BOICU52, genomic survey sequence.
ACCESSION CC952473
VERSION CC952473.1 GI:33791266
KEYWORDS GSS.
SOURCE Brassica oleracea
ORGANISM Brassica oleracea
Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;
Spermatophyta; Magnoliophyta; eudicotyledons; core eudicots;
rosids; eurosids II; Brassicales; Brassicaceae; Brassica.
1 (bases 1 to 595)
Town, C.D., Van Aken, S., Ultebrack, T., Koo, H. and Fraser, C.M.
Whole genome shotgun sequencing of Brassica oleracea
Unpublished (2001)
Other GSSs: BOICU52TF
COMMENT Contact: Chris Town
TIGR
912 Medical Center Drive, Rockville, MD 20850, USA.
Tel: 301-838-3523
Fax: 301-838-0208
Email: cdtown@tigr.org
DNA is from a doubled haploid provided by Tom Osborn.
Seq primer: TR
Class: sheared ends.

FEATURES
source location/Qualifiers

1..595
/organism="Brassica oleracea"
/mol_type="genomic DNA"
/strain="TO100DH3"
/db_xref="taxon:3712"
/clone="BOICU52"
/clone_lib="BO_1.4_1.6_KB_nuc"
/note="Vector: PHOS2; Site 1: BstXI; 1.4-1.6 kb sheared
nuclear DNA inserted into PHOS2 using BstXI linkers"

ORIGIN
Query Match 78.2%; Score 17.2; DB 9; Length 595;
Best Local Similarity 86.4%; Pred. No. 6.1e+02;
Matches 19; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

Qy 1 TGACTGTGAACGTTTCGAGATGA 22
|||||
Db 210 TGACTGTGATTGTCGAGATTA 231

RESULT 20
CD488495 617 bp mRNA linear EST 29-AUG-2003
LOCUS CD488495/c
DEFINITION T10_D04 Teliospore Ustilago maydis cDNA 5', mRNA sequence.
ACCESSION CD488495
VERSION CD488495.1 GI:34330993

KEYWORDS EST.
SOURCE Ustilago maydis
ORGANISM Ustilago maydis
Eukaryota; Fungi; Basidiomycota; Ustilaginomycetes;
Ustilaginomycetidae; Ustilaginales; Ustilaginaceae; Ustilago.
1 (bases 1 to 617)
Sacadura, N.T. and Saville, B.J.
Gene expression and EST analyses of Ustilago maydis germinating
teliospores
Fungal Genet. Biol. 40 (1), 47-64 (2003)
22829673
12948513

JOURNAL MEDLINE
PUBMED
COMMENT Contact: Barry J. Saville
Saville Lab
University of Toronto
3359 Mississauga Road North, Mississauga, ON, L5L 1C6, Canada
Tel: 905 569 4702
Fax: 905 828 3792
Email: bsaville@utmsc.utoronto.ca
Seq primer: M13 reverse primer (5' AACAGCTATGACCATGTTCA 3').
Location/Qualifiers

FEATURES
source location/Qualifiers

1..617
/organism="Ustilago maydis"
/mol_type="mRNA"
/strain="FBI/FB2"
/db_xref="taxon:5270"
/cell_type="Teliospore"
/dev_stage="Germinating teliospore"
/lab_host="E. coli"
/clone_lib="Teliospore"
/note="Vector: pDNR-LIB, Site 1: SfiI; Site 2: SfiI; B;
mRNA was extracted from germinating teliospores. cDNA was
amplified by PCR and unidirectionally cloned into pDNR-LIB
plasmid, with the use of Clontech's Creator SMART cDNA
Library Construction Kit."

ORIGIN
Query Match 78.2%; Score 17.2; DB 6; Length 617;
Best Local Similarity 86.4%; Pred. No. 6.2e+02;
Matches 19; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

Qy 1 TGACTGTGAACGTTTCGAGATGA 22
|||||
Db 439 TGACCGGAACGTTTCGAGTTGA 418

RESULT 21
Bj808940 633 bp mRNA linear EST 27-MAY-2004
LOCUS Bj808940
DEFINITION Caenorhabditis elegans oligo-capped cDNA library, stage L4
Caenorhabditis elegans cDNA clone yk1427e02.3', mRNA sequence.
ACCESSION Bj808940
VERSION Bj808940.1 GI:47718728
KEYWORDS EST.
SOURCE Caenorhabditis elegans
ORGANISM Caenorhabditis elegans
Eukaryota; Metazoa; Nematoda; Chromadorea; Rhabditida;
Rhabditioidea; Rhabditidae; Peloderinae; Caenorhabditis.
1 (bases 1 to 633)
Kohara, Y., Shin-1, T., Thierry-Mieg, J., Thierry-Mieg, D., Suzuki, Y.
and Sugano, S.
A complementary view of the C. elegans genome
Unpublished (2002)
Contact: Tadao Shin-1
Center For Genetic Resource Information
National Institute of Genetics
1111 Yata, Mishima, Shizuoka 411-8540, Japan
Tel: 81-559-81-6856
Fax: 81-559-81-6855
Email: tshin@genes.nig.ac.jp.
Location/Qualifiers

FEATURES
source location/Qualifiers

1..633
/organism="Caenorhabditis elegans"

/mol_type="mRNA"
 /strain="N2"
 /db_xref="taxon:6239"
 /clone="yk1427e02"
 /sex="Hermaphrodite"
 /tissue_type="whole animal"
 /dev_stage="L4"
 /clone_lib="unpublished oligo-capped cDNA library, stage L4"

ORIGIN

Query Match 78.2%; Score 17.2; DB 4; Length 633;
 Best Local Similarity 86.4%; Pred. No. 6.2e+02;
 Matches 19; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

Qy 1 TGACTGTGAACGTTGAGATGA 22
 Db 253 TGACTGTGAACGTTGAGATGA 274

RESULT 22

CR286398/c 634 bp mRNA linear EST 27-FEB-2004
 LOCUS CR286398 Oryza sativa library (Han B) Oryza sativa cDNA clone
 DEFINITION Y71B09p3, mRNA sequence.

ACCESSION CR286398
 VERSION CR286398.1 GI:44672964
 KEYWORDS EST.
 SOURCE Oryza sativa
 ORGANISM Oryza sativa

Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;
 Spermatophyta; Magnoliophyta; Liliopsida; Poales; Poaceae;
 Eriarthroideae; Oryzaceae; Oryza.
 1 (bases 1 to 634)
 Han, B., Feng, Q., Huang, Y. C., Ying, K., Li, Y., Guan, J. P., Zhu, J. J.,
 Zhao, Q., Hu, X., Liu, Y. L., Mu, J., Yu, Z., Chen, L., Fan, D. L.,
 Wang, Q. J., Zhang, L., Lu, Y. Q., Yu, S. L., Liu, X. H., Lu, T. T.,
 Zhang, Y. J., Lu, Y., Li, C., Li, T., Zhang, Y., Hu, H., Jia, P. X.,
 Zhang, L., Lan, L. F., Chen, W., Wu, S. A. and Xue, Y. B.
 Rice cDNA EST clone
 Unpublished (2003)

TITLE Rice cDNA EST clone
 JOURNAL Unpublished (2003)
 COMMENT Contact: Han Bin
 National Center for Gene Research
 Chinese Academy of Sciences
 500# Cao Bao Road, Shanghai 200233, China
 Email: bhan@ncgr.ac.cn
 Clone requests: bhan@ncgr.ac.cn
 This is rice cDNA est clone
 Web site: http://www.ncgr.ac.cn.

FEATURES
 source
 1..634
 /organism="Oryza sativa"
 /mol_type="mRNA"
 /db_xref="taxon:4530"
 /clone="Y71B09p3"
 /clone_lib="Oryza sativa library (Han B)"

ORIGIN

Query Match 78.2%; Score 17.2; DB 7; Length 634;
 Best Local Similarity 86.4%; Pred. No. 6.2e+02;
 Matches 19; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

Qy 1 TGACTGTGAACGTTGAGATGA 22
 Db 469 TGACTGTGAACGTTGAGATGA 448

RESULT 23
 CD487922/c 655 bp mRNA linear EST 29-AUG-2003
 LOCUS CD487922
 DEFINITION T02_B03 Teliospore Ustilago maydis cDNA 5', mRNA sequence.
 ACCESSION CD487922
 VERSION CD487922.1 GI:34330420

KEYWORDS EST.
 SOURCE Ustilago maydis
 ORGANISM Ustilago maydis
 Eukaryota; Fungi; Basidiomycota; Ustilaginomycetes;
 Ustilaginomycetidae; Ustilaginales; Ustilaginaceae; Ustilago.

REFERENCE 1 (bases 1 to 655)
 AUTHORS Sacadura, N. T. and Saville, B. J.
 Gene expression and EST analyses of Ustilago maydis germinating teliospores
 Fungal Genet. Biol. 40 (1), 47-64 (2003)

JOURNAL MEDLINE
 PUBMED 12948513
 COMMENT Contact: Barry J. Saville
 Saville Lab
 University of Toronto
 3359 Mississauga Road North, Mississauga, ON, L5L 1C6, Canada
 Tel: 905 569 4702
 Fax: 905 828 3792
 Email: bsaville@utms.utoronto.ca
 Seq primer: M13 reverse primer (5' AACAGCTATGACCATGTTCA 3').

FEATURES
 source
 1..655
 /organism="Ustilago maydis"
 /mol_type="mRNA"
 /strain="FBI/FB2"
 /db_xref="taxon:5270"
 /cell_type="Teliospore"
 /dev_stage="Germinating teliospore"
 /lab_host="E. coli"
 /clone_lib="Teliospore"
 /note="Vector: pDNR-LIB, Site_1: SfiI, Site_2: SfiI;
 mRNA was extracted from germinating teliospores. cDNA was
 amplified by PCR and unidirectionally cloned into pDNR-LIB
 plasmid, with the use of Clontech's Creator SMART cDNA
 Library Construction Kit."

ORIGIN

Query Match 78.2%; Score 17.2; DB 6; Length 655;
 Best Local Similarity 86.4%; Pred. No. 6.2e+02;
 Matches 19; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

Qy 1 TGACTGTGAACGTTGAGATGA 22
 Db 408 TGACCGGAACGTTGAGATGA 387

RESULT 24
 BM071434 726 bp mRNA linear EST 20-OCT-2002
 LOCUS BM071434
 DEFINITION BM071434 Nori Satoh unpublished cDNA library, cleaving embryo cDNA
 intestinalis cDNA clone rcic1096b23 3', mRNA sequence.

ACCESSION BM071434
 VERSION BM071434.1 GI:24172846
 KEYWORDS EST.
 SOURCE Ciona intestinalis
 ORGANISM Ciona intestinalis
 Eukaryota; Metazoa; Chordata; Urochordata; Ascidiacea; Enterogona;
 Phlebobranchia; Cloniidae; Ciona.

REFERENCE 1 (bases 1 to 726)
 AUTHORS Satoh, Y., Shin-I, T., Kohara, Y. and Satoh, N.
 Expressed genes in Ciona intestinalis (2002c)
 JOURNAL Unpublished (2002)

COMMENT Contact: Nori Satoh
 Department of Zoology
 Kyoto University
 Sakyo-ku, Kyoto, Kyoto 606-8502, Japan
 Tel: 81-75-753-4081
 Fax: 81-75-705-1113
 Email: satoh@ascidian.zool.kyoto-u.ac.jp.
 Location/Qualifiers
 1..726
 /organism="Ciona intestinalis"
 /mol_type="mRNA"

FEATURES
 source
 1..726
 /organism="Ciona intestinalis"
 /mol_type="mRNA"

ORIGIN

Query Match 78.2%; Score 17.2; DB 5; Length 726;
Best Local Similarity 86.4%; Pred. No. 6.3e+02;
Matches 19; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

1 TGACTGTGAACGTTGAGATGA 22
|||||
17 TGACTGTGAACGTCGATGA 38

/db_xref="taxon:7719"
/clone="rcic1096b23"
/issue_type="whole body"
/dev stage="cleaving embryo"
/clone_1lb="Nori Satoh unpublished cDNA library, cleaving embryo"

ORIGIN

Query Match 78.2%; Score 17.2; DB 5; Length 726;
Best Local Similarity 86.4%; Pred. No. 6.3e+02;
Matches 19; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

1 TGACTGTGAACGTTGAGATGA 22
|||||
17 TGACTGTGAACGTCGATGA 38

/db_xref="taxon:7719"
/clone="rcic1096b23"
/issue_type="whole body"
/dev stage="cleaving embryo"
/clone_1lb="Nori Satoh unpublished cDNA library, cleaving embryo"

RESULT 25

CB685128/c
LOCUS
DEFINITION
OSJNEF15E19.r OSJNEF Oryza sativa (japonica cultivar-group) cDNA
clone OSJNEF15E19 3', mRNA sequence.

ACCESSION
CB685128
KEYWORDS
EST.
SOURCE
Oryza sativa (japonica cultivar-group)
Oryza sativa (japonica cultivar-group)
Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;
Spermatophyta; Magnoliophyta; Liliopsida; Poales; Poaceae;
Erihartoideae; Oryzaceae; Oryza.
1 (bases 1 to 767)
Jantasuriyarat,C., Lu,G., Gowda,M., Hatfield,J., Zhou,B., Mazur,E.,
Kudrna,D., Dean,R., Soderlund,C., Wing,R. and Wang,G.
Large-scale identification of ESTs involved in the interaction
between rice and Magnaporthe grisea
unpublished (2003)
Contact: Rod Wing
Arizona Genomics Institute
University of Arizona
Biological Sciences West, 448A, P.O. Box 210088, Tucson, AZ
85721-0088, USA
Tel: 520 626 3967
Fax: 520 621 9288
Email: http://genome.arizona.edu
PCR Primers
FORWARD: gta aac cga cgg cca gtc
BACKWARD: gga aac agc tat gac cat g
Plate: 15 row: B column: 19
Seq primer: gga aac agc tat gac cat g.
Location/Qualifiers
1..767
/organism="Oryza sativa (japonica cultivar-group)"
/mol_type="mRNA"
/cultivar="Nipponbare"
/db_xref="taxon:39947"
/clone="OSJNEF15E19"
/issue_type="leaf"
/dev stage="3 week"
/lab_host="DH10B"
/clone_1lb="OSJNEF"
/note="Vector: pBluescript II KS +; Site_1: EcoRI; Site_2:
XhoI; Uninfected Control"

ORIGIN

Query Match 78.2%; Score 17.2; DB 6; Length 767;
Best Local Similarity 86.4%; Pred. No. 6.4e+02;
Matches 19; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

1 TGACTGTGAACGTTGAGATGA 22
|||||
215 TGAGTGTGAATGTTAGATGA 194

ORIGIN

Query Match 78.2%; Score 17.2; DB 6; Length 767;
Best Local Similarity 86.4%; Pred. No. 6.4e+02;
Matches 19; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

1 TGACTGTGAACGTTGAGATGA 22
|||||
215 TGAGTGTGAATGTTAGATGA 194

ORIGIN

Query Match 78.2%; Score 17.2; DB 6; Length 767;
Best Local Similarity 86.4%; Pred. No. 6.4e+02;
Matches 19; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

1 TGACTGTGAACGTTGAGATGA 22
|||||
215 TGAGTGTGAATGTTAGATGA 194

ORIGIN

Query Match 78.2%; Score 17.2; DB 6; Length 767;
Best Local Similarity 86.4%; Pred. No. 6.4e+02;
Matches 19; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

1 TGACTGTGAACGTTGAGATGA 22
|||||
215 TGAGTGTGAATGTTAGATGA 194

RESULT 26

CB644373/c
LOCUS
DEFINITION
OSJNEB05122.r OSJNEB Oryza sativa (japonica cultivar-group) cDNA
clone OSJNEB05122 3', mRNA sequence.

ACCESSION
CB644373
KEYWORDS
EST.
SOURCE
Oryza sativa (japonica cultivar-group)
Oryza sativa (japonica cultivar-group)
Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;
Spermatophyta; Magnoliophyta; Liliopsida; Poales; Poaceae;
Erihartoideae; Oryzaceae; Oryza.
1 (bases 1 to 812)
Jantasuriyarat,C., Lu,G., Gowda,M., Hatfield,J., Zhou,B., Mazur,E.,
Kudrna,D., Dean,R., Soderlund,C., Wing,R. and Wang,G.
Large-scale identification of ESTs involved in the interaction
between rice and Magnaporthe grisea
unpublished (2003)
Contact: Rod Wing
Arizona Genomics Institute
University of Arizona
Biological Sciences West, 448A, P.O. Box 210088, Tucson, AZ
85721-0088, USA
Tel: 520 626 3967
Fax: 520 621 9288
Email: http://genome.arizona.edu
PCR Primers
FORWARD: gta aac cga cgg cca gtc
BACKWARD: gga aac agc tat gac cat g
Plate: 05 row: I column: 22
Seq primer: gga aac agc tat gac cat g.
Location/Qualifiers
1..812
/organism="Oryza sativa (japonica cultivar-group)"
/mol_type="mRNA"
/cultivar="Nipponbare"
/db_xref="taxon:39947"
/clone="OSJNEB05122"
/issue_type="leaf"
/dev stage="3 week"
/lab_host="DH10B"
/clone_1lb="OSJNEB"
/note="Vector: pBluescript II KS +; Site_1: EcoRI; Site_2:
XhoI; 24 hrs after inoculation with Rice Blast (Che 86061)"

ORIGIN

Query Match 78.2%; Score 17.2; DB 6; Length 812;
Best Local Similarity 86.4%; Pred. No. 6.5e+02;
Matches 19; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

1 TGACTGTGAACGTTGAGATGA 22
|||||
372 TGAGTGTGAATGTTAGATGA 351

ORIGIN

Query Match 78.2%; Score 17.2; DB 6; Length 812;
Best Local Similarity 86.4%; Pred. No. 6.5e+02;
Matches 19; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

1 TGACTGTGAACGTTGAGATGA 22
|||||
372 TGAGTGTGAATGTTAGATGA 351

ORIGIN

Query Match 78.2%; Score 17.2; DB 6; Length 812;
Best Local Similarity 86.4%; Pred. No. 6.5e+02;
Matches 19; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

1 TGACTGTGAACGTTGAGATGA 22
|||||
372 TGAGTGTGAATGTTAGATGA 351

ORIGIN

Query Match 78.2%; Score 17.2; DB 6; Length 812;
Best Local Similarity 86.4%; Pred. No. 6.5e+02;
Matches 19; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

1 TGACTGTGAACGTTGAGATGA 22
|||||
372 TGAGTGTGAATGTTAGATGA 351

ORIGIN

Query Match 78.2%; Score 17.2; DB 6; Length 812;
Best Local Similarity 86.4%; Pred. No. 6.5e+02;
Matches 19; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

1 TGACTGTGAACGTTGAGATGA 22
|||||
372 TGAGTGTGAATGTTAGATGA 351

ORIGIN

Query Match 78.2%; Score 17.2; DB 6; Length 812;
Best Local Similarity 86.4%; Pred. No. 6.5e+02;
Matches 19; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

1 TGACTGTGAACGTTGAGATGA 22
|||||
372 TGAGTGTGAATGTTAGATGA 351

ORIGIN

Query Match 78.2%; Score 17.2; DB 6; Length 812;
Best Local Similarity 86.4%; Pred. No. 6.5e+02;
Matches 19; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

1 TGACTGTGAACGTTGAGATGA 22
|||||
372 TGAGTGTGAATGTTAGATGA 351

TITLE Large-scale identification of ESTs involved in the interaction between rice and Magnaporthe grisea
JOURNAL Unpublished (2003)
COMMENT Contact: Rod Wing
Arizona Genomics Institute
University of Arizona
Biological Sciences West, 448A, P.O. Box 210088, Tucson, AZ 85721-0088, USA
Tel: 520 626 3967
Fax: 520 621 9288
Email: http://genome.arizona.edu

PCR primers
FORWARD: gta aaa cga cgg cca gtc
BACKWARD: gga aac agc tat gac cat g
Plate: 15 row: E column: 19
Seq primer: gta aaa cga cgg cca gtc.

FEATURES
source location/Qualifiers
1..844
/organism="Oryza sativa (japonica cultivar-group)"
/mol_type="mRNA"
/cultivar="Nipponbare"
/db_xref="taxon:39947"
/clone="OSJNEF15E19"
/issue_type="Leaf"
/dev_stage="3 week"
/lab_host="DH10B"
/clone_lib="OSJNEF"
/note="Vector: pBluescript II KS +; Site_1: EcoRI; Site_2: XhoI, Uninfected Control"

ORIGIN
Query Match 78.2%; Score 17.2; DB 6; Length 844;
Best Local Similarity 86.4%; Pred. No. 6.5e+02;
Matches 19; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

QY 1 TGACTGTGAACGTTCCAGATGA 22
|||||
807 TGAGTGTGAATGTTAGAGATGA 828
|||||

RESULT 28
CL670249/c 852 bp DNA linear GSS 09-JUL-2004
LOCUS PR10161C.E10 - PR10161C.B21 (852) Mixed stage fosmid library of P. pacificus var. California Pristionchus pacificus genomic, genomic
DEFINITION survey sequence.
ACCESSION CL670249
VERSION CL670249.1 GI:50167921
KEYWORDS GSS.
SOURCE Pristionchus pacificus
ORGANISM Pristionchus pacificus
Eukaryota; Metazoa; Nematoda; Chromadorea; Diplogasterida;
Neodiplogasterida; Pristionchus.
1 (bases 1 to 852)
Srinivasan, J., Otto, G.W., Kahlow, U., Geisler, R. and Sommer, R.J.
AppADB: an AceDB database for the nematode satellite organism Pristionchus pacificus
Nucleic Acids Res. 32 (1), D421-D422 (2004)
Contact: Sommer RJ
Evolutionary Biology
Max-Planck-Institute for Developmental Biology
Spemannstr. 37-39, Tuebingen D-72076, Germany
Tel: 00497071601371
Fax: 00497071601498
Email: ralf.sommer@tuebingen.mpg.de
This library was generated at Caltech, Pasadena, USA and end sequenced at Vancouver, Canada.
Seq primer: T7
Class: fosmid ends.
location/Qualifiers
1..852
/organism="Pristionchus pacificus"
/mol_type="genomic DNA"

/strain="California"
/db_xref="taxon:54126"
/clone_lib="Mixed stage fosmid library of P. pacificus var. California"
/note="Vector: pBplfos-5 Fosmid vector"

ORIGIN
Query Match 78.2%; Score 17.2; DB 9; Length 852;
Best Local Similarity 86.4%; Pred. No. 6.5e+02;
Matches 19; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

QY 1 TGACTGTGAACGTTCCAGATGA 22
|||||
423 TGCTCTGAATGTTCCAGATGA 402
|||||

RESULT 29
CF378583 882 bp mRNA linear EST 27-AUG-2003
LOCUS AGENCOURT_15341601.NICH.D.XGC.Swb1N Xenopus tropicalis cDNA clone
DEFINITION IMAGE:7005347 5', mRNA sequence.
ACCESSION CF378583
VERSION CF378583.1 GI:34316027
KEYWORDS EST.
SOURCE Xenopus tropicalis (western clawed frog)
ORGANISM Xenopus tropicalis
Eukaryota; Metazoa; Chordata; Vertebrata; Euteleostomi; Amphibia; Batrachia; Anura; Mesobatrachia; Pipidae; Pipidae; Xenopodinae; Xenopus; Silurana.
1 (bases 1 to 882)
NIR-MGC http://mgc.nci.nih.gov/.
National Institutes of Health, Mammalian Gene Collection (MGC)
Unpublished (1999)
Contact: Daniela S. Gerhard, Ph.D.
Office of Cancer Genomics
National Cancer Institute / NIH
Bldg. 31 Rm10A07 Bethesda, MD 20892
Email: cgaabs-r@mail.nih.gov
Tissue Procurement: Rob Granger, University of Virginia
cDNA Library Preparation: Open Biosystems
cDNA Library Arrayed by: The I.M.A.G.E. Consortium (LLNL)
DNA Sequencing by: Agencourt Bioscience Corporation
Clone distribution: MGC clone distribution information can be found through the I.M.A.G.E. Consortium/LLNL at:
http://image.llnl.gov
Plate: LLNL4704 row: C column: 09
High quality sequence stop: 610.
location/Qualifiers
1..882
/organism="Xenopus tropicalis"
/mol_type="mRNA"
/db_xref="taxon:8364"
/clone="IMAGE:7005347"
/issue_type="whole body"
/clone_lib="NICH.D.XGC.Swb1N"
/note="Vector: pEXpress-1; Site 1: EcoRV; Site 2: NotI;
Bulk tissue was collected from a whole 10 month old male from the F6 strain. 1st strand cDNA was primed with a Not I - oligo(dT) primer, double-stranded cDNA was cloned into the Not I and EcoRV sites of pEXpress-1. Library was size-selected for >1.5 kb fragments for an average insert size of 1.92 kb. Library was normalized to Cots with a 180-fold reduction of actin. A non-normalized version of this library is also available (NICH.D.XGC.Swb1). Library was constructed by Open Biosystems (Huntsville, AL).
PLEASE NOTE: This library contains high level of contamination by tubifex"

ORIGIN
Query Match 78.2%; Score 17.2; DB 7; Length 882;
Best Local Similarity 86.4%; Pred. No. 6.6e+02;
Matches 19; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

QY 1 TGACTGTGAACGTTTCGAGATGA 22
|||||
Db 137 TGACTGTGAAGGTTCTAGATGA 158
|||||

RESULT 30
CNS05PD9/C 972 bp DNA linear GSS 01-SEP-2000
LOCUS
DEFINITION Tetradodon nigroviridis genome survey sequence T7 end of clone
005P08 of library A from Tetradodon nigroviridis, genomic survey
sequence.
ACCESSION AL347814.1 GI:8241584
VERSION
KEYWORDS GSS; genome survey sequence.
SOURCE Tetradodon nigroviridis
ORGANISM Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Actinopterygii; Neopterygii; Teleostei; Euteleostei; Neoteleostei;
Acanthomorpha; Acanthopterygii; Percomorphi; Tetraodontiformes;
Tetraodontidae; Tetraodontidae; Tetradodon.

REFERENCE 1
AUTHORS Roest Crolius,H., Jallion,O., Dasilva,C., Bouneau,L., Fisher,C.,
Bernot,A., Fizames,C., Wincker,P., Brottier,P., Quetier,F.,
Saurin,W., and Weissenbach,J.
TITLE Estimate of human gene number provided by genome-wide analysis
using Tetradodon nigroviridis DNA sequence
JOURNAL Nat. Genet. 25 (2), 235-238 (2000)
MEDLINE 20296633
PUBMED 10835645

JOURNAL 2
MEDLINE Roest Crolius,H., Jallion,O., Dasilva,C., Orouf-Costaz,C.,
Fizames,C., Fischer,C., Bouneau,L., Billault,A., Quetier,F.,
Saurin,W., Bernot,A. and Weissenbach,J.
TITLE Characterization and repeat analysis of the compact genome of the
freshwater pufferfish Tetradodon nigroviridis
JOURNAL Genome Res. 10 (7), 939-949 (2000)
MEDLINE 20359837
PUBMED 10899143

REFERENCE 3 (bases 1 to 972)
AUTHORS Genoscope.
TITLE Direct Submission
JOURNAL Submitted (12-APR-2000) Genoscope - Centre National de Sequencage :
BP 101 91006 EVRY cedex - FRANCE (E-mail : seqref@genoscope.cns.fr)
COMMENT This sequence is a single read and was generated as part of a large
scale clone-end sequencing project of the Tetradodon nigroviridis
genome. For more information, please take a look at
<http://www.genoscope.cns.fr/tetradodon>.

FEATURES
source
1..972
/organism="Tetradodon nigroviridis"
/mol_type="genomic DNA"
/db_xref="taxon:99883"
/clone="005F08"
/clone_1fb="A"
/note="Genoscope sequence ID : COAA005DC04C1-end : T7"

ORIGIN
Query Match 78.2%; Score 17.2; DB 9; Length 972;
Best Local Similarity 86.4%; Pred. No. 6.7e+02;
Matches 19; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

QY 1 TGACTGTGAACGTTTCGAGATGA 22
|||||
Db 46 TGACTGTGAAGGTTTCGAGATGA 25
|||||

RESULT 31
CA139194 1028 bp mRNA linear EST 24-SEP-2003
LOCUS
DEFINITION SCCRRT2094G05.g RT2 Saccharum officinarum cDNA clone SCCRRT2094G05
5', mRNA sequence.
ACCESSION CA139194

VERSION CA139194.1 GI:35030936
KEYWORDS EST.
SOURCE Saccharum officinarum
ORGANISM Saccharum officinarum
Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;
Spermatophyta; Magnoliophyta; Liliopsida; Poales; Poaceae; PACCAD
clade; Panicoideae; Andropogoneae; Saccharum; Saccharum officinarum
complex.

REFERENCE 1 (bases 1 to 1028)
AUTHORS Vettore,A.L., da Silva,F.R., Kemper,E.L. and Arruda,P.
TITLE The libraries that made SUCESR
JOURNAL Genet. Mol. Biol. 24 (1-4), 1-7 (2001)
COMMENT Contact: Arruda P
Centro de Biologia Molecular e Engenharia Genetica
Universidade Estadual de Campinas
Caixa Postal 6010, 13083-970, Campinas SP, Brazil
Tel: 55 19 3788 1137
Fax: 55 19 3788 1089
Email: parvuda@unicamp.br
Clone distribution: clone distribution information can be found
through the Brazilian Clone Collection Center (BCCC) at
<http://www.bcccenter.fcav.unesp.br>
Plate: 094 row: G column: 05
Seq primer: T7 Promoter Primer.

FEATURES
source
1..1028
/organism="Saccharum officinarum"
/mol_type="mRNA"
/db_xref="taxon:4547"
/clone="SCCERRT2094G05"
/lab_host="DH10B"
/clone_1fb="RT2"
/note="Organ: Root tips (0.3cm-long) from adult plants;
Vector: pSport1; Site 1: SalI; Site 2: NotI; An
unidirectional cDNA library generated from [root
tips (0.3cm-long) from adult plants]. cDNA was prepared
from polyA+ mRNA using Superscript Plasmid System Kit
(Invitrogen). The double-strand cDNAs were fractionated
in a Sepharose CL-2B 40cm-columns and fragments sizing
between 0.8 and 1.5 kb were directionally cloned into the
vector. Details of each source of RNA and library
construction can be obtained at
<http://succest.lad.ic.unicamp.br/public>

ORIGIN
Query Match 78.2%; Score 17.2; DB 6; Length 1028;
Best Local Similarity 86.4%; Pred. No. 6.7e+02;
Matches 19; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

QY 1 TGACTGTGAACGTTTCGAGATGA 22
|||||
Db 626 TGACTGTGAAGGTTCTGATGA 647
|||||

RESULT 32
CL487297 1852 bp DNA linear GSS 01-APR-2004
LOCUS
DEFINITION SAIL_44_G10.v1 SAIL Collection Arabidopsis thaliana genomic clone
SAIL_44_G10.v1, genomic survey sequence.
ACCESSION CL487297.1 GI:45966507
VERSION
KEYWORDS GSS.
SOURCE Arabidopsis thaliana (thale cress)
ORGANISM Arabidopsis thaliana
Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;
Spermatophyta; Magnoliophyta; eudicotyledons; core eudicots;
rosids; eurosids II; Brassicales; Brassicaceae; Arabidopsis.
1 (bases 1 to 1852)
Sessions,A., Burke,E., Presting,G., Aux,G., McEliver,J., Paton,D.,
Dietrich,B., Ho,P., Bacwaden,J., Ko,C., Clarke,J.D., Cotton,D.,
Bullis,D., Snell,J., Miguel,T., Hutchinson,D., Kimerly,B.,
Mitzei,T., Katagiri,F., Glaebrook,J., Law,W., and Goff,S.A.
A high-throughput Arabidopsis reverse genetics system

JOURNAL Plant Cell 14 (12), 2985-2994 (2002)
MEDLINE 22356987
PUBMED 12468722
COMMENT Contact: Sessions A
Applied Trait Genetics
SynGene Biotechnology Inc.
3054 Cornwallis Rd., Research Triangle Park, NC 27709, USA
Email: allen.sessions@synGene.com
ABRC Stock Number CS802138; T-DNA left border flanking sequences of
SynGene Arabidopsis Insertion Library (SAIL) lines are available
through the Arabidopsis Biological Resource Center (ABRC).
Sequences represent a pool of amplified genomic regions and not
single contiguous sequences.
Class: TDM tagged.
Location/Qualifiers
1..1852
/organism="Arabidopsis thaliana"
/mol_type="genomic DNA"
/ecotype="Columbia"
/db_xref="taxon:3702"
/clone="SAIL 44 G10.v1"
/clone_lib="SAIL Collection"
/note="T-DNA left border sequences were isolated using a
modified TAIL-PCR strategy"

ORIGIN

Query Match 78.2%; Score 17.2; DB 9; Length 1852;
Best Local Similarity 86.4%; Pred. No. 7.5e+02;
Matches 19; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

Qy 1 TGACTGTGAACGTTGAGATGA 22
121 TGACTGTGAATGTTAGATGA 142

Db

RESULT 33 AK037625 2481 bp mRNA linear HTC 03-APR-2004
LOCUS AK037625
DEFINITION Mus musculus 16 days neonate thymus cDNA, RIKEN full-length
enriched library, clone: A130030F17 product: unknown EST, full insert
sequence.
ACCESSION AK037625
VERSION AK037625.1 GI:26085966
KEYWORDS HTC; CAP trapper.
SOURCE Mus musculus (house mouse)
ORGANISM Mus musculus
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.

REFERENCE
AUTHORS Carninci, P. and Hayashizaki, Y.
TITLE High-efficiency full-length cDNA cloning
JOURNAL Meth. Enzymol. 303, 19-44 (1999)
MEDLINE 99279253
PUBMED 10349636

REFERENCE
AUTHORS Carninci, P., Shibata, Y., Hayatsu, N., Sugahara, Y., Shibata, K.,
Itoh, M., Konno, H., Okazaki, Y., Muramatsu, M. and Hayashizaki, Y.
TITLE Normalization and subtraction of cap-trapper-selected cDNAs to
prepare full-length cDNA libraries for rapid discovery of new genes
JOURNAL Genome Res. 10 (10), 1617-1630 (2000)
MEDLINE 20499374
PUBMED 11042159

REFERENCE
AUTHORS Shibata, K., Itoh, M., Aizawa, K., Nagaoka, S., Sasaki, N., Carninci, P.,
Konno, H., Akiyama, J., Nishi, K., Kitsuami, T., Tashiro, H., Itoh, M.,
Sumi, N., Ishii, Y., Nakamura, S., Hazama, M., Nishino, T., Harada, A.,
Yamamoto, R., Matsumoto, H., Sakaguchi, S., Ikegami, T., Kashiwagi, K.,
Fujiwara, S., Inoue, K., Togawa, Y., Izawa, M., Ohara, E., Matsui, M.,
Yoneda, Y., Ishikawa, T., Ozawa, K., Tanaka, T., Matsura, S., Kawai, J.,
Okazaki, Y., Muramatsu, M., Inoue, Y., Kira, A. and Hayashizaki, Y.
TITLE RIKEN integrated sequence analysis (RISA) system-384-format
sequencing pipeline with 384 multicapillary sequencer
JOURNAL Genome Res. 10 (11), 1757-1771 (2000)

MEDLINE 20530913
PUBMED 11076861
REFERENCE
AUTHORS 4
THE RIKEN Genome Exploration Research Group Phase II Team and the
PANTOM Consortium.
Functional annotation of a full-length mouse cDNA collection
JOURNAL Nature 409, 685-690 (2001)
REFERENCE
AUTHORS 5
The PANTOM Consortium and the RIKEN Genome Exploration Research
Group Phase I & II Team.
Analysis of the mouse transcriptome based on functional annotation
of 60,770 full-length cDNAs
JOURNAL Nature 420, 563-573 (2002)
REFERENCE
AUTHORS Adachi, J., Aizawa, K., Akimura, T., Arakawa, T., Bono, H., Carninci, P.,
Fukuda, S., Furuno, M., Hanagaki, T., Hara, A., Hashizume, W.,
Hayashida, K., Hayatsu, N., Hiramoto, K., Hiraoka, T., Hirozane, T.,
Hori, F., Imotani, K., Ishii, Y., Itoh, M., Kagawa, I., Kasukawa, T.,
Katoh, H., Kawai, J., Kojima, Y., Kondo, S., Konno, H., Kouda, M.,
Koya, S., Kurihara, C., Matsuyama, T., Miyazaki, A., Murata, M.,
Nakamura, M., Nishi, K., Nomura, K., Numazaki, R., Ohno, M., Ohsato, N.,
Okazaki, Y., Saito, R., Saitoh, H., Sakai, C., Sakai, K., Sakazume, N.,
Sano, H., Sasaki, D., Shibata, K., Shingawa, A., Shiraki, T.,
Sogabe, Y., Tagami, M., Tagawa, A., Takahashi, F., Takaku-Akanita, S.,
Takeda, Y., Tanaka, T., Tomaru, A., Toya, T., Yasunishi, A.,
Muramatsu, M. and Hayashizaki, Y.
Direct Submission
Submitted (16-JUN-2001) Yoshihide Hayashizaki, The Institute of
Physical and Chemical Research (RIKEN), Laboratory for Genome
Exploration Research Group, RIKEN Genomic Sciences Center (GSC),
RIKEN Yokohama Institute; 1-7-22 Suehiro-cho, Tsurumi-ku, Yokohama,
Kanagawa 230-0045, Japan (E-mail: genome-res@gs.c.riken.jp,
URL: http://genome.gsc.riken.jp/, Tel: 81-45-503-9222,
Fax: 81-45-503-9216)

COMMENT
cDNA library was prepared and sequenced in Mouse Genome
Encyclopedia Project of Genome Exploration Research Group in Riken
Genomic Sciences Center and Genome Science Laboratory in RIKEN.
Division of Experimental Animal Research in Riken contributed to
prepare mouse tissues.
Please visit our web site for further details.
URL: http://genome.gsc.riken.jp/
URL: http://fantom.gsc.riken.jp/
URL: http://fantom.gsc.riken.jp/
Location/Qualifiers
1..2481
/organism="Mus musculus"
/mol_type="mRNA"
/strain="C57BL/6J"
/db_xref="PANTOM_DB:A130030F17"
/db_xref="taxon:10090"
/clone="A130030F17"
/tissue_type="thymus"
/clone_lib="RIKEN full-length enriched mouse cDNA library"
/dev_stage="16 days neonate"
1..2481
/note="unknown EST (GB|BE692239, evidence: BLASTN, 99%,
match=501)"

FEATURES
source

ORIGIN

Query Match 78.2%; Score 17.2; DB 3; Length 2481;
Best Local Similarity 86.4%; Pred. No. 7.9e+02;
Matches 19; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

Qy 1 TGACTGTGAACGTTGAGATGA 22
605 TGAACTGTGAACGTTGAGATGA 584

Db

RESULT 34 AA094019 105 bp mRNA linear EST 25-OCT-1996
LOCUS AA094019
DEFINITION C1619, seq. F Human fetal heart, Lambda ZAP Express Homo sapiens
cDNA 5', mRNA sequence.
ACCESSION AA094019

VERSION AA094019.1 GI:1639612
KEYWORDS EST.
SOURCE Homo sapiens (human)
ORGANISM Homo sapiens
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Homnidae; Homo.
1 (bases 1 to 105)
Liew,C.C.
CDNAs from fetal heart (1996)
Unpublished (1996)
Contact: Liew CC
Brigham and Women's Hospital
Harvard Medical School
75 Francis St. Boston, MA 02115, USA
Tel: 6177328915
Fax: 6179750995
Email: cliew@rics.bwh.harvard.edu
PCR Primers
FORWARD: 5' GCCAGCTGGAATTACCTCCTAAGG 3'
BACKWARD: 5' CCAGTAATGTAAATACGACTCCTATGGCG 3'
Seq primer: 5' GAATTACCTCCTCCTAAGG 3'.
Location/Qualifiers
1..105
/organism="Homo sapiens"
/mol_type="mRNA"
/db_xref="taxon:9606"
/lab_host="E. coli XL1-Blue"
/clone_lib="Human fetal heart, Lambda ZAP Expressa"
/note="Vector: Lambda ZAP Express; Site 1: EcoRI; Site 2:
XhoI; mRNA was purified from human fetal hearts (8-10
weeks). cDNA was synthesized using a XhoI-Oligo dT
adaptor-primer. EcoRI adaptors were ligated, followed by
digestion with XhoI, for directional cloning into
predigested lambda ZAP Expressa."

ORIGIN
Query Match 76.4%; Score 16.8; DB 1; Length 105;
Best Local Similarity 90.0%; Pred. No. 7.3e+02;
Matches 18; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

QY 1 TGACTGTGAACGTTGCAGAT 20
43 TGACTGTGAACCTTCAGAT 62

Db

RESULT 35
CES37167/c 496 bp DNA linear GSS 28-SEP-2003
LOCUS tigr-gss-dog-17000365936856 Dog Library Canis familiaris genomic,
DEFINITION genomic survey sequence.
ACCESSION CES37167
VERSION CES37167
KEYWORDS GSS.
SOURCE GSS.
ORGANISM Canis familiaris (dog)
Canis familiaris
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Carnivora; Fissipedia; Canidae; Canis.
1 (bases 1 to 496)
Kirkness,E.F., Bafna,V., Halpern,A.L., Levy,S., Remington,K.,
Ruesch,D.B., Delcher,A.L., Pop,M., Wang,M., Frazer,C.M. and
Venter,J.C.
The dog genome: survey sequencing and comparative analysis
Science 301 (5641), 1898-1903 (2003)
JOURNAL MEDLINE 22875432
PUBMED 14512627
COMMENT Contact: Kirkness EF
The Institute for Genomic Research
Department of Eukaryotic Genomics, TIGR, 9712 Medical Center Drive,
Rockville, MD 20850, USA
Tel: 301-838-0200
Fax: 301-838-0208
Email: ekirknes@tigr.org
Class: shotgun.

FEATURES
source Location/Qualifiers
1..496
/organism="Canis familiaris"
/mol_type="genomic DNA"
/strain="Standard Poodle"
/db_xref="taxon:9615"
/clone_lib="Dog Library"
/note="Site 1: BstXI; Libraries were prepared from
peripheral blood"

ORIGIN
Query Match 76.4%; Score 16.8; DB 9; Length 496;
Best Local Similarity 90.0%; Pred. No. 9.6e+02;
Matches 18; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

QY 3 ACTGTGAACGTTGCAGATGA 22
184 ACTGTGAAGATCGAGATCA 165

Db

RESULT 36
AZ483488 523 bp DNA linear GSS 05-OCT-2000
LOCUS tM0309M12F Mouse 10kb plasmid tM0309M12 F, genomic survey sequence.
DEFINITION clone tM0309M12 F, genomic survey sequence.
ACCESSION AZ483488
VERSION AZ483488
KEYWORDS GSS.
SOURCE GSS.
ORGANISM Mus musculus (house mouse)
Mus musculus
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
1 (bases 1 to 523)
Dunn,D., Aoyagi,A., Barber,M., Beacorn,T., Duval,B., Hamil,C.,
Islam,H., Longacre,S., Mahmoud,M., Meenen,E., Pedersen,T.,
Reilly,M., Rose,M., Rose,R., Stokes,R., Tingey,A., von
Niederhausern,A. and Wright,D.,Weiss,R.
Mouse whole genome scaffolding with paired end reads from 10kb
plasmid inserts
Unpublished (2000)
Contact: Robert B. Weiss
University of Utah Genome Center
University of Utah
Rm. 308, Biomedical Polymers Research Bldg., 20 S. 2030 E., SLC, UT
84112, USA
Tel: 801 585 5606
Fax: 801 585 7177
Email: ddunn@genetics.utah.edu
Insert Length: 10000 Std Error: 0.00
Plate: 0309 row: M column: 12
Seq primer: CGTTGTAAACGACGCGCCAGT
Class: plasmid ends
High quality sequence strop: 523.
Location/Qualifiers
1..523
/organism="Mus musculus"
/mol_type="genomic DNA"
/strain="C57BL/6J"
/db_xref="taxon:10090"
/clone="tM0309M12"
/sex="Male"
/lab_host="E. Coli strain XL10-Gold, TI-resistant, F-"
/clone_lib="Mouse 10kb plasmid tM0309M12 library"
/note="Vector: PMD42nv; Purified genomic DNA from M.
musculus C57BL/6J (male) was obtained from the Jackson
Laboratory Mouse DNA Resource
(http://www.jax.org/resources/documents/dnars/). The DNA
was hydrodynamically sheared by repeated passage through a
0.005 inch orifice at constant velocity. The sheared DNA
was blunt end-repaired with T4 DNA polymerase and T4
polynucleotide kinase. Adaptor oligonucleotides were
ligated to the blunt ends in high molar excess. The
adaptor DNA was purified and size-selected for a 9.5 to

10.5 kb range using preparative agarose gel electrophoresis. Vector DNA was prepared from a derivative of pMD42 (gi|4732114|gb|AF129072.1), a copy-number inducible derivative of plasmid R1. The vector was ligated with adaptors complementary to the insert adaptors and purified. The sheared, adapted mouse DNA was annealed to adapted vector DNA, and transformed into chemically-competent *E. coli* XL10-Gold (Stratagene) cells and selected for ampicillin resistance."

ORIGIN

Query Match 76.4%; Score 16.8; DB 8; Length 523;
Best Local Similarity 90.0%; Pred. No. 9.7e+02;
Matches 18; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

QY 3 ACTGTGACGTTGAGATGA 22
|||||
Db 376 ACTGTGACTTTCGAGATGA 395

RESULT 37

AZ501799 526 bp DNA linear GSS 05-OCT-2000
LOCUS
DEFINITION 1M0340J17R Mouse 10kb plasmid UUGC1M library Mus musculus genomic
clone UUGC1M0340J17 R, genomic survey sequence.

ACCESSION AZ501799
VERSION AZ501799.1 GI:10663115

KEYWORDS GSS.
SOURCE Mus musculus (house mouse)

ORGANISM

Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus;

REFERENCE

1 (bases 1 to 526)
Dunn, D., Aoyagi, A., Barber, M., Beacorn, T., Duval, B., Hamil, C.,
Islam, H., Longacre, S., Mahmoud, M., Meenen, E., Pedersen, T.,
Reilly, M., Rose, M., Rose, R., Stokes, R., Tingey, A., von
Niederhausern, A. and Wright, D., Weiss, R.

Mouse whole genome scaffolding with paired end reads from 10kb
plasmid inserts

Unpublished (2000)

JOURNAL

CONTACT: Robert B. Weiss
University of Utah Genome Center
University of Utah
Rm. 308, Biomedical Polymers Research Bldg., 20 S. 2030 E., SLC, UT
84112, USA

Tel: 801 585 5606
Fax: 801 585 7177

Email: ddunn@genetics.utah.edu

Insert Length: 10000 Std Error: 0.00

Plate: 0340 row: J column: 17

Seq primer: CACACAGAAACAGCATATGACC

Class: plasmid ends

High quality sequence stop: 526.

Location/Qualifiers

FEATURES

source

1. 526
/organism="Mus musculus"

/mol_type="genomic DNA"

/strain="C57BL/6J"

/db_xref="taxon:10090"

/clone="UUGC1M0340J17"

/sex="Male"

/lab_host="E. Coli strain XL10-Gold, T1-resistant, F-"

/clone_lib="Mouse 10kb plasmid UUGC1M library"

/note="Vector: pMD42nv; Purified genomic DNA from M.

laboratory Mouse DNA Resource

(http://www.jax.org/resources/documents/dnares/). The DNA

was hydrodynamically sheared by repeated passage through a

0.005 inch orifice at constant velocity. The sheared DNA

was blunt end-repaired with T4 DNA polymerase and T4

polynucleotide kinase. Adaptor oligonucleotides were

ligated to the blunt ends in high molar excess. The

adapted DNA was purified and size-selected for a 9.5 to

10.5 kb range using preparative agarose gel electrophoresis. Vector DNA was prepared from a derivative of pMD42 (gi|4732114|gb|AF129072.1), a copy-number inducible derivative of plasmid R1. The vector was ligated with adaptors complementary to the insert adaptors and purified. The sheared, adapted mouse DNA was annealed to adapted vector DNA, and transformed into chemically-competent *E. coli* XL10-Gold (Stratagene) cells and selected for ampicillin resistance."

ORIGIN

Query Match 76.4%; Score 16.8; DB 8; Length 526;
Best Local Similarity 90.0%; Pred. No. 9.7e+02;
Matches 18; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

QY 1 TGACGTGACGTTGAGAT 20
|||||
Db 60 TGACAGTGACGTTCTGAT 79

RESULT 38

CA380211/c 628 bp mRNA linear EST 06-NOV-2002
LOCUS
DEFINITION 659460 NCCGWA 1RT Oncorhynchus mykiss cDNA clone 1RT49D04_D_B02 5',
mRNA sequence.

ACCESSION CA380211
VERSION CA380211.1 GI:24701684

KEYWORDS EST.
SOURCE Oncorhynchus mykiss (rainbow trout)

ORGANISM

Oncorhynchus mykiss
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Actinopterygii; Neopterygii; Teleostei; Euteleostei;

Protacanthopterygii; Salmoniformes; Salmonidae; Oncorhynchus.

1 (bases 1 to 628)
Rexroad, C.B. 3rd, Lee, Y., Keele, J.W., Karamecheva, S., Brown, G.,
Koop, B., Gahr, S.A., Palti, Y., and Quackenbush, J.

Sequence analysis of a rainbow trout cDNA library and creation of a
gene index

Cytogenet. Genome Res. 102 (1-4), 347-354 (2003)

JOURNAL

CONTACT: Rexroad CE
USDA, ARS, National Center for Cool and Cold Water Aquaculture
11876 Leetown Road, Kearneysville, WV 25430, USA

Tel: 304 724 8340 x2129

Fax: 304 725 0351

Email: crexroad@nccgwa.ars.usda.gov

Single pass sequencing. Bases called with phred v0.020425.c and

trimmed with the aid of the trim_alc option. Vector identified by

cross_match v0.990329.

Seq primer: AGCGATACCAATTCACACAGCA.

Location/Qualifiers

FEATURES

source

1. 628
/organism="Oncorhynchus mykiss"

/mol_type="mRNA"

/db_xref="taxon:8022"

/clone="1RT49D04_D_B02"

/tissue_type="pooled"

/lab_host="DH10B"

/clone_lib="NCCGWA 1RT"

/note="Vector: pCMV SPORT6; Site 1: NotI; Site 2: SalI;
library made from pooled tissue from brain, gill, liver,
spleen, muscle, and kidney."

ORIGIN

Query Match 76.4%; Score 16.8; DB 6; Length 628;
Best Local Similarity 90.0%; Pred. No. 1e+03;
Matches 18; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

QY 3 ACTGTGACGTTGAGATGA 22
|||||
Db 138 ACTGAGACGTCGAGATGA 119

RESULT 39

CB576172 645 bp mRNA linear EST 03-APR-2003
LOCUS AMGNNUC:CDRG1-00006-h1-A cdxg1 (10898) Rattus norvegicus cDNA clone
DEFINITION cdxg1-00006-h1 5', mRNA sequence.
ACCESSION CB576172
VERSION CB576172.1 GI:29520213
KEYWORDS EST.
SOURCE Rattus norvegicus (Norway rat)
ORGANISM Rattus norvegicus
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae;
Rattus.
REFERENCE 1 (bases 1 to 645)
AUTHORS Amgen EST Program.
TITLE Amgen Rat EST Program
JOURNAL Unpublished (2003)
COMMENT Contact: Dan Fitzpatrick
Amgen, Inc
One Amgen Center Drive, Thousand Oaks, CA 91320-1799, USA
Tel: 805 447-4881
Plate: 00006 row: h column: 1.
Location/Qualifiers
1..645
/organism="Rattus norvegicus"
/mol_type="mRNA"
/db_xref="taxon:10116"
/clone="cdxg1-00006-h1"
/issue_type="Chung Model Ipsilate"
/clone_lib="cdxg1 (10898)"
/note="Vector: pSPORT1; Chung Model Rat DRG Left L5/L6"

ORIGIN

Query Match 76.4%; Score 16.8; DB 6; Length 645;
Best Local Similarity 90.0%; Pred. No. 1e+03;
Matches 18; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

QY 3 ACTGTGAACGTTGAGATGA 22
|||||
Db 424 ACTGTGACCTTCGAGATGA 443

RESULT 40
CO079691 654 bp mRNA linear EST 15-JUN-2004
LOCUS GR_Ea42K15.f GR_Ea Gossypium raimondii cDNA clone GR_Ea42K15 5',
DEFINITION mRNA sequence.
ACCESSION CO079691
VERSION CO079691.1 GI:48749172
KEYWORDS EST.
SOURCE Gossypium raimondii
ORGANISM Gossypium raimondii
Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;
Spermatophyta; Magnoliophyta; eudicotyledons; core eudicots;
rosids; eurosids II; Malvales; Malvaceae; Malvoideae; Gossypium.
1 (bases 1 to 654)
Kim.H., Yu.Y., Kudrna.D., Hatfield.J., Stum.D., Mueller.C.,
Udall,J.A., Rapp,R.A., Wendel,J.F., Rao,K., Soderlund,C. and
Wing,R.A.
TITLE Global assembly of Cotton ESTs
JOURNAL Unpublished (2004)
COMMENT Contact: Rod A. Wing
Arizona Genomics Institute
The University of Arizona
Forbes Building Room 303, Tucson, AZ, 85721-0036, USA
Tel: 520 626 9595
Fax: 520 621 1259
Email: http://genome.arizona.edu
Plate: 42 row: K column: 15.
Location/Qualifiers
1..654
/organism="Gossypium raimondii"
/mol_type="mRNA"
/db_xref="taxon:29730"

FEATURES
source

/clone="GR_Ea42K15"
/issue_type="whole seedlings"
/dev_stage="first true leaves"
/lab_host="DH10B"
/clone_lib="GR_Ea"
/note="Vector: pCMV.SPORT-6.1; Site 1: NotI; Site 2:
EcoRV; library made by invitrogen with RNA supplied by
Wendle lab. Directional cloned into NotI-EV. Colonies
plated/picked by Agt. More glycerol clones held in -80."

ORIGIN

Query Match 76.4%; Score 16.8; DB 7; Length 654;
Best Local Similarity 90.0%; Pred. No. 1e+03;
Matches 18; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

QY 3 ACTGTGAACGTTGAGATGA 22
|||||
Db 636 ACTGTGACGTTGAGATGA 617

Search completed: October 30, 2004, 17:30:47
Job time : 1479 secs

GenCore version 5.1.6
Copyright (c) 1993 - 2004 CompuGen Ltd.

OM nucleic - nucleic search, using bw model

Run on: October 30, 2004, 17:55:42 ; Search time 1431 Seconds
(without alignments)
727.025 Million cell updates/sec

Title: US-09-802-376-1

Perfect score: 22
Sequence: 1 tgaactgtgaacttcgagatga 22

Scoring table: IDENTITY NUC
Gapop 10.0 , Gapext 1.0

Searched: 4526729 seqs, 23644849745 residues

Total number of hits satisfying chosen parameters: 2172512

Minimum DB seq length: 0
Maximum DB seq length: 100

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 1000 summaries

Database :

GenEmbl:*
1: gb_ba:*
2: gb_hcg:*
3: gb_in:*
4: gb_om:*
5: gb_ov:*
6: gb_pat:*
7: gb_ph:*
8: gb_pl:*
9: gb_pr:*
10: gb_ro:*
11: gb_sce:*
12: gb_sy:*
13: gb_un:*
14: gb_vl:*

Pred. No. is the number of results predicted by chance to have a
score greater than or equal to the score of the result being printed,
and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	22	100.0	22	6	BD182369
2	22	100.0	22	6	BD182369
3	22	100.0	22	6	BD185615
4	22	100.0	22	6	BD190435
5	22	100.0	22	6	BD228690
6	22	100.0	22	6	BD233617
7	22	100.0	22	6	BD251283
8	22	100.0	22	6	BD272057
9	22	100.0	22	6	AR268334
10	22	100.0	22	6	AR287741
11	22	100.0	22	6	AR287743
12	22	100.0	22	6	AR308057
13	22	100.0	22	6	AR352573
14	22	100.0	22	6	AR383158
15	22	100.0	22	6	AR392162
16	22	100.0	22	6	AX036945
17	22	100.0	22	6	AX046993
18	22	100.0	22	6	AX083675
19	22	100.0	22	6	AX135650
					AX148636

20	22	100.0	22	6	AX250701	Sequence
21	22	100.0	22	6	AX252291	Sequence
22	22	100.0	22	6	AX252509	Sequence
23	22	100.0	22	6	AX252520	Sequence
24	22	100.0	22	6	AX252934	Sequence
25	22	100.0	22	6	AX253113	Sequence
26	22	100.0	22	6	AX253123	Sequence
27	22	100.0	22	6	AX468499	Sequence
28	22	100.0	22	6	AX592312	Sequence
29	22	100.0	22	6	AX592350	Sequence
30	22	100.0	22	6	AX592369	Sequence
31	22	100.0	22	6	AX720306	Sequence
32	22	100.0	22	6	BD009235	Immunost
33	21.2	96.4	22	6	AX50707	Sequence
34	21	95.5	22	6	BD233630	Immunost
35	21	95.5	22	6	AX252586	Sequence
36	21	95.5	22	6	AX083681	Sequence
37	21	95.5	22	6	AX148642	Sequence
38	21	95.5	22	6	AX52297	Sequence
39	21	95.5	22	6	AX52515	Sequence
40	21	95.5	22	6	AX52526	Sequence
41	21	95.5	22	6	AX52940	Sequence
42	21	95.5	22	6	AX53119	Sequence
43	21	95.5	22	6	AX53129	Sequence
44	21	95.5	22	6	AX592341	Sequence
45	21	95.5	22	6	AX592347	Sequence
46	21	95.5	22	6	AX592351	Sequence
47	21	95.5	22	6	AX592357	Sequence
48	20.4	92.7	22	6	AX148608	Sequence
49	20.4	92.7	22	6	BD233616	Immunost
50	20.4	92.7	22	6	BD233620	Immunost
51	20.4	92.7	22	6	BD233621	Immunost
52	20.4	92.7	22	6	BD272058	Use of st
53	20.4	92.7	22	6	AR287742	Sequence
54	20.4	92.7	22	6	AR287744	Sequence
55	20.4	92.7	22	6	AR308058	Sequence
56	20.4	92.7	22	6	AR352572	Sequence
57	20.4	92.7	22	6	AR352576	Sequence
58	20.4	92.7	22	6	AR352577	Sequence
59	20.4	92.7	22	6	AR392165	Sequence
60	20.4	92.7	22	6	AR392166	Sequence
61	20.4	92.7	22	6	AR392167	Sequence
62	20.4	92.7	22	6	AX036946	Sequence
63	20.4	92.7	22	6	AX083676	Sequence
64	20.4	92.7	22	6	AX083678	Sequence
65	20.4	92.7	22	6	AX148637	Sequence
66	20.4	92.7	22	6	AX148639	Sequence
67	20.4	92.7	22	6	AX250702	Sequence
68	20.4	92.7	22	6	AX250704	Sequence
69	20.4	92.7	22	6	AX250708	Sequence
70	20.4	92.7	22	6	AX252292	Sequence
71	20.4	92.7	22	6	AX252294	Sequence
72	20.4	92.7	22	6	AX252510	Sequence
73	20.4	92.7	22	6	AX252512	Sequence
74	20.4	92.7	22	6	AX252521	Sequence
75	20.4	92.7	22	6	AX252523	Sequence
76	20.4	92.7	22	6	AX252935	Sequence
77	20.4	92.7	22	6	AX252937	Sequence
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79	20.4	92.7	22	6	AX253116	Sequence
80	20.4	92.7	22	6	AX253124	Sequence
81	20.4	92.7	22	6	AX253126	Sequence
82	20.4	92.7	22	6	BD136175	Inhibitor
83	20.2	91.8	22	6	AX148643	Sequence
84	20.2	91.8	22	6	AX252527	Sequence
85	20.2	91.8	22	6	AX252941	Sequence
86	20	90.9	22	6	BD233631	Immunost
87	20	90.9	22	6	AR352587	Sequence
88	20	90.9	22	6	AX083682	Sequence
89	20	90.9	22	6	AX174913	Sequence
90	20	90.9	22	6	AX252298	Sequence
91	20	90.9	22	6	AX252516	Sequence
92	20	90.9	22	6	AX253120	Sequence

93	20	90.9	22	6	AX253130	Sequence	166	17.2	78.2	22	6	AX592319	Sequence	AX592319
94	20	90.9	22	6	AX592348	Sequence	167	17.2	78.2	22	6	AX592326	Sequence	AX592326
95	20	90.9	22	6	AX592358	Sequence	168	17.2	78.2	22	6	AX592331	Sequence	AX592331
96	19.6	89.1	22	6	AX250706	Sequence	169	17.2	78.2	22	6	BD136177	Inhibitor	BD136177
97	19.4	88.2	22	6	BD233627	Immunost	170	17	77.3	22	6	AX592322	Sequence	AX592322
98	19.4	88.2	22	6	AR352583	Sequence	171	17	77.3	22	6	AX592355	Sequence	AX592355
99	19.4	88.2	22	6	AX083680	Sequence	172	17	77.3	22	6	AX592356	Sequence	AX592356
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101	19.4	88.2	22	6	AX252296	Sequence	174	16.4	74.5	18	6	AX592363	Sequence	AX592363
102	19.4	88.2	22	6	AX252514	Sequence	175	15.8	71.8	100	6	AX598660	Sequence	AX598660
103	19.4	88.2	22	6	AX252525	Sequence	176	15.6	70.9	22	6	AR148611	Sequence	AR148611
104	19.4	88.2	22	6	AX252939	Sequence	177	15.6	70.9	22	6	AR148613	Sequence	AR148613
105	19.4	88.2	22	6	AX253118	Sequence	178	15.6	70.9	22	6	AR148614	Sequence	AR148614
106	19.4	88.2	22	6	AX253128	Sequence	179	15.6	70.9	22	6	AR592163	Sequence	AR592163
107	19.4	88.2	22	6	AX592349	Sequence	180	15.6	70.9	22	6	AX592320	Sequence	AX592320
108	18.8	85.5	22	6	AR148607	Sequence	181	15.6	70.9	22	6	BD136178	Inhibitor	BD136178
109	18.8	85.5	22	6	AR148609	Sequence	182	15.6	70.9	22	6	BD136180	Inhibitor	BD136180
110	18.8	85.5	22	6	AR148616	Sequence	183	15.6	70.9	22	6	BD136181	Inhibitor	BD136181
111	18.8	85.5	22	6	BD190436	Microemul	184	15.6	70.9	93	4	EMA270463	Sequence	AJ270463
112	18.8	85.5	22	6	BD28691	Methods a	185	15.4	70.0	18	6	AX592339	Sequence	AX592339
113	18.8	85.5	22	6	BD233618	Immunost	186	15.4	70.0	21	6	BD233625	Immunost	BD233625
114	18.8	85.5	22	6	BD233623	Immunost	187	15.4	70.0	21	6	AR352581	Sequence	AR352581
115	18.8	85.5	22	6	BD251284	Enhanceme	188	15.4	70.0	23	6	BD233626	Immunost	BD233626
116	18.8	85.5	22	6	BD272056	Use of st	189	15.4	70.0	23	6	AR352582	Sequence	AR352582
117	18.8	85.5	22	6	BD272064	Use of st	190	15	68.2	21	6	AX592442	Sequence	AX592442
118	18.8	85.5	22	6	AR268335	Sequence	191	15	68.2	23	6	BD233619	Immunost	BD233619
119	18.8	85.5	22	6	AR268745	Sequence	192	15	68.2	23	6	AR352575	Sequence	AR352575
120	18.8	85.5	22	6	AR308059	Sequence	193	15	68.2	23	6	AX083677	Sequence	AX083677
121	18.8	85.5	22	6	AR352574	Sequence	194	15	68.2	23	6	AX148638	Sequence	AX148638
122	18.8	85.5	22	6	AR352579	Sequence	195	15	68.2	23	6	AX250703	Sequence	AX250703
123	18.8	85.5	22	6	AR383159	Sequence	196	15	68.2	23	6	AX552293	Sequence	AX552293
124	18.8	85.5	22	6	AR392164	Sequence	197	15	68.2	23	6	AX52511	Sequence	AX52511
125	18.8	85.5	22	6	AR392169	Sequence	198	15	68.2	23	6	AX252522	Sequence	AX252522
126	18.8	85.5	22	6	AX036944	Sequence	199	15	68.2	23	6	AX252936	Sequence	AX252936
127	18.8	85.5	22	6	AX036952	Sequence	200	15	68.2	23	6	AX253115	Sequence	AX253115
128	18.8	85.5	22	6	AX135651	Sequence	201	15	68.2	23	6	AX253125	Sequence	AX253125
129	18.8	85.5	22	6	AX148644	Sequence	202	14.8	67.3	18	6	AX592324	Sequence	AX592324
130	18.8	85.5	22	6	AX148645	Sequence	203	14.6	66.4	75	6	CQ556293	Sequence	CQ556293
131	18.8	85.5	22	6	AX252518	Sequence	204	14.6	66.4	72	11	G42179	Sequence	G42179
132	18.8	85.5	22	6	AX252519	Sequence	205	14.2	64.5	51	6	CQ007200	Sequence	CQ007200
133	18.8	85.5	22	6	AX252528	Sequence	206	14	63.6	19	6	AX592329	Sequence	AX592329
134	18.8	85.5	22	6	AX252529	Sequence	207	14	63.6	19	6	AX592333	Sequence	AX592333
135	18.8	85.5	22	6	AX252942	Sequence	208	14	63.6	19	6	AX592334	Sequence	AX592334
136	18.8	85.5	22	6	AX252943	Sequence	209	14	63.6	20	6	AX592365	Sequence	AX592365
137	18.8	85.5	22	6	AX253121	Sequence	210	14	63.6	22	6	AX592340	Sequence	AX592340
138	18.8	85.5	22	6	AX253131	Sequence	211	14	63.6	65	6	CQ556496	Sequence	CQ556496
139	18.8	85.5	22	6	AX253134	Sequence	212	14	63.6	77	6	I40727	Sequence	I40727
140	18.8	85.5	22	6	AX468500	Sequence	213	14	63.6	93	4	MIA270467	Sequence	AJ270467
141	18.8	85.5	22	6	AX592318	Sequence	214	14	63.6	95	6	AR165693	Sequence	AR165693
142	18.8	85.5	22	6	AX592359	Sequence	215	14	63.6	95	6	AR304889	Sequence	AR304889
143	18.8	85.5	22	6	AX592360	Sequence	216	13.8	62.7	51	6	AR443691	Sequence	AR443691
144	18.8	85.5	22	6	AX592370	Sequence	217	13.6	61.8	41	6	AX514818	Sequence	AX514818
145	18.8	85.5	22	6	AX592371	Sequence	218	13.6	61.8	41	6	AX517176	Sequence	AX517176
146	18.8	85.5	22	6	AX720307	Sequence	219	13.6	61.8	51	6	CQ007768	Sequence	CQ007768
147	18.8	85.5	22	6	BD009236	Immunost	220	13.6	61.8	60	6	CQ546444	Sequence	CQ546444
148	18.8	85.5	22	6	BD136174	Inhibitor	221	13.6	61.8	62	6	BD225791	Screening	BD225791
149	18.8	85.5	22	6	BD136176	Inhibitor	222	13.6	61.8	62	6	AX011500	Sequence	AX011500
150	18.8	85.5	22	6	BD136183	Inhibitor	223	13.6	61.8	77	6	AR125945	Sequence	AR125945
151	18	81.8	18	6	AX592354	Sequence	224	13.6	61.8	77	6	I47265	Sequence	I47265
152	17.8	80.9	22	6	AX592343	Sequence	225	13.6	61.8	85	6	CQ079579	Sequence	CQ079579
153	17.8	80.9	22	6	AX592344	Sequence	226	13.6	61.8	85	6	CQ111643	Sequence	CQ111643
154	17.8	80.9	22	6	AX592352	Sequence	227	13.6	61.8	85	6	CQ150433	Sequence	CQ150433
155	17.8	80.9	22	6	AX592353	Sequence	228	13.6	61.8	85	6	CQ184778	Sequence	CQ184778
156	17.2	78.2	22	6	AR148610	Sequence	229	13.6	61.8	85	6	CQ23746	Sequence	CQ23746
157	17.2	78.2	22	6	BD190437	Microemul	230	13.6	61.8	85	6	CQ271585	Sequence	CQ271585
158	17.2	78.2	22	6	BD233624	Immunost	231	13.6	61.8	85	6	CQ309068	Sequence	CQ309068
159	17.2	78.2	22	6	BD233628	Immunost	232	13.6	61.8	85	6	CQ345767	Sequence	CQ345767
160	17.2	78.2	22	6	BD251285	Enhanceme	233	13.6	61.8	93	9	HSPA5B8	Sequence	Z79354
161	17.2	78.2	22	6	AR352580	Sequence	234	13.6	61.8	93	10	AY041811	Sequence	AY041811
162	17.2	78.2	22	6	AR352584	Sequence	235	13.6	61.8	97	6	I35460	Sequence	I35460
163	17.2	78.2	22	6	AR392170	Sequence	236	13.6	61.8	98	6	I35457	Sequence	I35457
164	17.2	78.2	22	6	AX135652	Sequence	237	13.6	61.8	98	6	I35468	Sequence	I35468
165	17.2	78.2	22	6	AX468501	Sequence	238	13.6	61.8	98	6	I35471	Sequence	I35471

C 239	13.6	61.8	98	6	I35473	I35473 Sequence 24	312	12.6	57.3	42	6	AX356821	AX356821 Sequence
C 240	13.4	60.9	71	6	A44231	A44231 Sequence 12	C 313	12.6	57.3	42	6	AX356822	AX356822 Sequence
C 241	13.4	60.9	71	6	A72728	A72728 Sequence 22	C 314	12.6	57.3	42	6	AX356824	AX356824 Sequence
C 242	13.4	60.9	83	14	AR408862	AR408862 Sequence	C 315	12.6	57.3	57	6	AR134789	AR134789 Sequence
C 243	13.4	60.9	83	14	CYERRUT	M58311 Clitoria Ye	C 316	12.6	57.3	57	6	AR274457	AR274457 Sequence
C 244	13.2	60.0	36	6	AR136900	AR136900 Sequence	C 317	12.6	57.3	59	6	I33576	I33576 Sequence 7
C 245	13.2	60.0	59	6	BD225616	BD225616 Screening	C 318	12.6	57.3	60	6	CQ540285	CQ540285 Sequence
C 246	13.2	60.0	59	6	AX011325	AX011325 Sequence	C 319	12.6	57.3	60	6	CQ541013	CQ541013 Sequence
C 247	13.2	60.0	65	6	CQ532915	CQ532915 Sequence	C 320	12.6	57.3	61	6	CQ549719	CQ549719 Sequence
C 248	13.2	60.0	65	6	CQ558045	CQ558045 Sequence	C 321	12.6	57.3	60	6	I21559	I21559 Sequence 10
C 249	13.2	60.0	74	6	AR273849	AR273849 Sequence	C 322	12.6	57.3	61	6	AX270709	AX270709 Sequence
C 250	13.2	60.0	74	6	AR277430	AR277430 Sequence	C 323	12.6	57.3	61	6	AX272240	AX272240 Sequence
C 251	13.2	60.0	74	6	AR407705	AR407705 Sequence	C 324	12.6	57.3	65	6	CQ534823	CQ534823 Sequence
C 252	13.2	60.0	74	6	AR441555	AR441555 Sequence	C 325	12.6	57.3	65	6	CQ555311	CQ555311 Sequence
C 253	13.2	60.0	74	6	AX368882	AX368882 Sequence	C 326	12.6	57.3	65	6	CQ557856	CQ557856 Sequence
C 254	13.2	60.0	77	6	AR012736	AR012736 Sequence	C 327	12.6	57.3	76	6	AR009189	AR009189 Sequence
C 255	13.2	60.0	77	6	AR077046	AR077046 Sequence	C 328	12.6	57.3	76	6	I32455	I32455 Sequence 37
C 256	13.2	60.0	77	6	AR092081	AR092081 Sequence	C 329	12.6	57.3	77	6	AR042612	AR042612 Sequence
C 257	13.2	60.0	77	6	AR369363	AR369363 Sequence	C 330	12.6	57.3	77	6	AR064745	AR064745 Sequence
C 258	13.2	60.0	97	6	AX534757	AX534757 Sequence	C 331	12.6	57.3	77	6	AR476769	AR476769 Sequence
C 259	13.2	60.0	97	6	I35453	I35453 Sequence 4	C 332	12.6	57.3	82	6	E31028	E31028 Method for
C 260	13.2	60.0	98	6	I35456	I35456 Sequence 7	C 333	12.6	57.3	93	9	HSPA5E3	Z79363 H. sapiens f
C 261	13	59.1	20	6	AX592330	AX592330 Sequence	C 334	12.6	57.3	98	6	I35451	I35451 Sequence 2
C 262	13	59.1	30	6	AR261690	AR261690 Sequence	C 335	12.4	56.4	19	6	AX592366	AX592366 Sequence
C 263	13	59.1	34	6	BD091493	BD091493 Process f	C 336	12.4	56.4	19	6	AX592367	AX592367 Sequence
C 264	13	59.1	34	6	BD091522	BD091522 Method fo	C 337	12.4	56.4	20	6	AR146299	AR146299 Sequence
C 265	13	59.1	60	6	AR134787	AR134787 Sequence	C 338	12.4	56.4	20	6	BD205521	BD205521 Method of
C 266	13	59.1	60	6	CQ548261	CQ548261 Sequence	C 339	12.4	56.4	20	6	BD261063	BD261063 Methods a
C 267	13	59.1	60	6	CQ533286	CQ533286 Sequence	C 340	12.4	56.4	20	6	BD261313	BD261313 Methods a
C 268	13	59.1	60	6	AR274455	AR274455 Sequence	C 341	12.4	56.4	20	6	BD267836	BD267836 Methods f
C 269	13	59.1	65	6	CQ532990	CQ532990 Sequence	C 342	12.4	56.4	20	6	BD270818	BD270818 Stereoiso
C 270	13	59.1	87	9	AF267797	AF267797 Homo sapl	C 343	12.4	56.4	20	6	AR213889	AR213889 Sequence
C 271	13	59.1	91	6	CQ306864	CQ306864 Sequence	C 344	12.4	56.4	20	6	AX105150	AX105150 Sequence
C 272	13	59.1	94	1	UEU34366	UEU34366 Unidentifie	C 345	12.4	56.4	20	6	AX786600	AX786600 Sequence
C 273	13	59.1	95	11	CR382277	CR382277 Arabidops	C 346	12.4	56.4	22	6	AR372919	AR372919 Sequence
C 274	13	59.1	100	6	AX999715	AX999715 Sequence	C 347	12.4	56.4	23	6	AR213653	AR213653 Sequence
C 275	12.8	58.2	20	6	AR310804	AR310804 Sequence	C 348	12.4	56.4	23	6	BD057711	BD057711 Fusion pr
C 276	12.8	58.2	30	6	AR201030	AR201030 Sequence	C 349	12.4	56.4	23	6	BD081541	BD081541 Soluble s
C 277	12.8	58.2	30	6	AX969081	AX969081 Sequence	C 350	12.4	56.4	24	6	AR372917	AR372917 Sequence
C 278	12.8	58.2	30	6	BD009773	BD009773 Humanized	C 351	12.4	56.4	24	6	AX291151	AX291151 Sequence
C 279	12.8	58.2	31	6	AR126483	AR126483 Sequence	C 352	12.4	56.4	26	6	A90912	A90912 Sequence 19
C 280	12.8	58.2	36	6	A42831	A42831 Sequence 16	C 353	12.4	56.4	26	6	BD187822	BD187822 A stressa-
C 281	12.8	58.2	41	6	I87337	I87337 Sequence 16	C 354	12.4	56.4	26	8	S71815S2	S71817 Lycopersico
C 282	12.8	58.2	41	6	E43978	E43978 Variant glu	C 355	12.4	56.4	34	6	A79460	A79460 Sequence 2
C 283	12.8	58.2	41	6	AX514542	AX514542 Sequence	C 356	12.4	56.4	34	6	AR023810	AR023810 Sequence
C 284	12.8	58.2	41	6	AX520133	AX520133 Sequence	C 357	12.4	56.4	34	6	AR141590	AR141590 Sequence
C 285	12.8	58.2	60	6	CQ550470	CQ550470 Sequence	C 358	12.4	56.4	34	6	AR195104	AR195104 Sequence
C 286	12.8	58.2	77	6	AR042608	AR042608 Sequence	C 359	12.4	56.4	34	6	AR262024	AR262024 Sequence
C 287	12.8	58.2	77	6	AR064741	AR064741 Sequence	C 360	12.4	56.4	34	6	AR454697	AR454697 Sequence
C 288	12.8	58.2	77	6	AR476765	AR476765 Sequence	C 361	12.4	56.4	34	6	BD001887	BD001887 Lumaine
C 289	12.6	57.3	19	6	BD246796	BD246796 Method fo	C 362	12.4	56.4	42	8	ATH528844	ATH528844 Sequence
C 290	12.6	57.3	19	6	AR209761	AR209761 Sequence	C 363	12.4	56.4	51	6	AX118333	AX118333 Sequence
C 291	12.6	57.3	23	6	A04167	A04167 Synthetic o	C 364	12.4	56.4	55	6	BD073245	BD073245 Modified
C 292	12.6	57.3	25	6	CQ787525	CQ787525 Sequence	C 365	12.4	56.4	59	6	AR069372	AR069372 Sequence
C 293	12.6	57.3	25	6	AX609036	AX609036 Sequence	C 366	12.4	56.4	60	6	CQ539242	CQ539242 Sequence
C 294	12.6	57.3	25	6	AX814763	AX814763 Sequence	C 367	12.4	56.4	60	6	CQ540755	CQ540755 Sequence
C 295	12.6	57.3	25	6	AX825670	AX825670 Sequence	C 368	12.4	56.4	60	6	CQ543383	CQ543383 Sequence
C 296	12.6	57.3	26	6	A42817	A42817 Sequence 14	C 369	12.4	56.4	60	6	CQ546731	CQ546731 Sequence
C 297	12.6	57.3	26	6	I87323	I87323 Sequence 14	C 370	12.4	56.4	60	6	CQ548196	CQ548196 Sequence
C 298	12.6	57.3	26	6	AX592010	AX592010 Sequence	C 371	12.4	56.4	60	6	CQ553046	CQ553046 Sequence
C 299	12.6	57.3	26	6	AX592028	AX592028 Sequence	C 372	12.4	56.4	65	6	CQ530581	CQ530581 Sequence
C 300	12.6	57.3	27	6	A28065	A28065 GAD sequence	C 373	12.4	56.4	65	6	CQ534921	CQ534921 Sequence
C 301	12.6	57.3	27	6	AR058238	AR058238 Sequence	C 374	12.4	56.4	65	6	CQ554186	CQ554186 Sequence
C 302	12.6	57.3	27	6	AR145356	AR145356 Sequence	C 375	12.4	56.4	65	6	CQ558649	CQ558649 Sequence
C 303	12.6	57.3	27	6	AX33512	AX33512 Sequence	C 376	12.4	56.4	65	6	CQ559669	CQ559669 Sequence
C 304	12.6	57.3	30	6	AX799995	AX799995 Sequence	C 377	12.4	56.4	65	6	CQ560104	CQ560104 Sequence
C 305	12.6	57.3	30	6	BD084069	BD084069 Envirome	C 378	12.4	56.4	69	6	AX023565	AX023565 Sequence
C 306	12.6	57.3	30	6	BD093384	BD093384 Envirome	C 379	12.4	56.4	73	6	AR012418	AR012418 Sequence
C 307	12.6	57.3	39	6	AX391236	AX391236 Sequence	C 380	12.4	56.4	73	6	AR020246	AR020246 Sequence
C 308	12.6	57.3	39	6	AX399561	AX399561 Sequence	C 381	12.4	56.4	73	6	AR109267	AR109267 Sequence
C 309	12.6	57.3	42	6	AX356813	AX356813 Sequence	C 382	12.4	56.4	73	6	I82592	I82592 Sequence 33
C 310	12.6	57.3	42	6	AX356815	AX356815 Sequence	C 383	12.4	56.4	73	6	AR368458	AR368458 Sequence
C 311	12.6	57.3	42	6	AX356819	AX356819 Sequence	C 384	12.4	56.4	73	6	AR391650	AR391650 Sequence

385	12.4	56.4	76	6	AR009194	AR009194 Sequence	C 458	12.2	55.5	87	6	BD177567	BD177567 Anti-IgE
386	12.4	56.4	76	6	I32460	I32460 Sequence 42	C 459	12.2	55.5	87	6	AX404020	AX404020 Sequence
387	12.4	56.4	81	6	I40754	I40754 Sequence 85	C 460	12.2	55.5	87	6	BD086883	BD086883 Nucleic a
388	12.4	56.4	82	11	BX295187	BX295187 Arabidops	C 461	12.2	55.5	93	6	I35484	I35484 Sequence 35
389	12.4	56.4	84	3	AY601483	AY601483 Apis mell	C 462	12.2	55.5	97	11	HSU57850	HSU57850 Human Clone
390	12.4	56.4	93	4	AH0270468	AJ270468 Amblysomu	C 463	12.2	55.5	98	6	I35452	I35452 Sequence 3
391	12.4	56.4	93	4	DDU270464	AJ270464 Dugong du	C 464	12.2	55.5	98	6	I35465	I35465 Sequence 16
392	12.4	56.4	93	4	EEC270465	AJ270465 Erinaceus	C 465	12.2	55.5	98	6	I35475	I35475 Sequence 26
393	12.4	56.4	100	6	AX523289	AX523289 Sequence	C 466	12.2	55.5	98	6	I35476	I35476 Sequence 27
394	12.4	56.4	100	6	AX989753	AX989753 Sequence	C 467	12.2	55.5	98	6	I35477	I35477 Sequence 28
395	12.4	56.4	100	6	AX996297	AX996297 Sequence	C 468	12.2	55.5	100	6	CO001338	CO001338 Sequence
396	12.4	56.4	100	6	AX996298	AX996298 Sequence	C 469	12.2	55.5	100	6	AX996351	AX996351 Sequence
397	12.4	56.4	100	6	AX996299	AX996299 Sequence	C 470	12.2	55.5	100	6	AX996960	AX996960 Sequence
398	12.4	56.4	100	6	AX998472	AX998472 Sequence	C 471	12	55.5	20	6	AR224710	AR224710 Sequence
399	12.2	55.5	17	6	AR433670	AR433670 Sequence	C 472	12	55.5	21	6	AX98243	AX98243 Sequence
400	12.2	55.5	17	6	AX649338	AX649338 Sequence	C 473	12	54.5	22	6	AR372905	AR372905 Sequence
401	12.2	55.5	21	6	CO78124	CO78124 Sequence	C 474	12	54.5	22	6	AR372907	AR372907 Sequence
402	12.2	55.5	23	6	AX767047	AX767047 Sequence	C 475	12	54.5	22	6	AR372911	AR372911 Sequence
403	12.2	55.5	24	6	AX433770	AX433770 Sequence	C 476	12	54.5	22	6	AR372913	AR372913 Sequence
404	12.2	55.5	24	6	AX433808	AX433808 Sequence	C 477	12	54.5	24	6	AX289471	AX289471 Sequence
405	12.2	55.5	25	6	AR434485	AR434485 Sequence	C 478	12	54.5	24	6	AX444515	AX444515 Sequence
406	12.2	55.5	25	6	AR434486	AR434486 Sequence	C 479	12	54.5	26	6	AX741783	AX741783 Sequence
407	12.2	55.5	25	6	AR434487	AR434487 Sequence	C 480	12	54.5	26	6	AX741784	AX741784 Sequence
408	12.2	55.5	25	6	AR434488	AR434488 Sequence	C 481	12	54.5	31	6	AX248314	AX248314 Sequence
409	12.2	55.5	25	6	AR434489	AR434489 Sequence	C 482	12	54.5	34	6	AX128302	AX128302 Sequence
410	12.2	55.5	25	6	AR434490	AR434490 Sequence	C 483	12	54.5	39	6	AR225171	AR225171 Sequence
411	12.2	55.5	25	6	AR434491	AR434491 Sequence	C 484	12	54.5	42	6	AR034467	AR034467 Sequence
412	12.2	55.5	25	6	AR434492	AR434492 Sequence	C 485	12	54.5	42	6	AR070412	AR070412 Sequence
413	12.2	55.5	25	6	AR434493	AR434493 Sequence	C 486	12	54.5	42	6	AR083406	AR083406 Sequence
414	12.2	55.5	25	6	AX650902	AX650902 Sequence	C 487	12	54.5	50	9	AP288874	AP288874 Homo sapi
415	12.2	55.5	25	6	AX650903	AX650903 Sequence	C 488	12	54.5	51	6	AX159641	AX159641 Sequence
416	12.2	55.5	25	6	AX650904	AX650904 Sequence	C 489	12	54.5	53	6	AR381761	AR381761 Sequence
417	12.2	55.5	25	6	AX650905	AX650905 Sequence	C 490	12	54.5	53	6	AX180172	AX180172 Sequence
418	12.2	55.5	25	6	AX650906	AX650906 Sequence	C 491	12	54.5	53	6	AX180672	AX180672 Sequence
419	12.2	55.5	25	6	AX650907	AX650907 Sequence	C 492	12	54.5	53	6	AX406489	AX406489 Sequence
420	12.2	55.5	25	6	AX650908	AX650908 Sequence	C 493	12	54.5	55	6	AX899270	AX899270 Sequence
421	12.2	55.5	25	6	AX650909	AX650909 Sequence	C 494	12	54.5	55	6	BD034803	BD034803 Sequence
422	12.2	55.5	25	6	AX650910	AX650910 Sequence	C 495	12	54.5	60	6	CO353919	CO353919 Sequence
423	12.2	55.5	26	6	AR215341	AR215341 Sequence	C 496	12	54.5	60	6	CO338561	CO338561 Sequence
424	12.2	55.5	29	6	AR275658	AR275658 Sequence	C 497	12	54.5	60	6	CO545633	CO545633 Sequence
425	12.2	55.5	29	6	AR275658	AR275658 Sequence	C 498	12	54.5	60	6	CO547547	CO547547 Sequence
426	12.2	55.5	29	6	AR302385	AR302385 Sequence	C 499	12	54.5	60	6	CO548847	CO548847 Sequence
427	12.2	55.5	38	6	BD266550	BD266550 Universal	C 500	12	54.5	60	6	CO549921	CO549921 Sequence
428	12.2	55.5	39	6	AX391232	AX391232 Sequence	C 501	12	54.5	66	6	CO561819	CO561819 Sequence
429	12.2	55.5	39	6	AX399557	AX399557 Sequence	C 502	12	54.5	65	6	CO532465	CO532465 Sequence
430	12.2	55.5	42	6	AX711341	AX711341 Sequence	C 503	12	54.5	65	6	CO554283	CO554283 Sequence
431	12.2	55.5	45	6	AX711339	AX711339 Sequence	C 504	12	54.5	65	6	CO554447	CO554447 Sequence
432	12.2	55.5	51	6	AR433688	AR433688 Sequence	C 505	12	54.5	65	6	AX482849	AX482849 Sequence
433	12.2	55.5	51	6	AR433690	AR433690 Sequence	C 506	12	54.5	65	6	AX485807	AX485807 Sequence
434	12.2	55.5	60	6	CO542113	CO542113 Sequence	C 507	12	54.5	66	6	BD221869	BD221869 Nucleic a
435	12.2	55.5	60	6	CO544277	CO544277 Sequence	C 508	12	54.5	67	6	AR211799	AR211799 Sequence
436	12.2	55.5	60	6	CO548144	CO548144 Sequence	C 509	12	54.5	67	6	AX496839	AX496839 Sequence
437	12.2	55.5	60	6	CO548458	CO548458 Sequence	C 510	12	54.5	73	6	AR012412	AR012412 Sequence
438	12.2	55.5	60	6	CO549003	CO549003 Sequence	C 511	12	54.5	73	6	AR020340	AR020340 Sequence
439	12.2	55.5	65	6	CO533768	CO533768 Sequence	C 512	12	54.5	73	6	AR109261	AR109261 Sequence
440	12.2	55.5	65	6	CO533906	CO533906 Sequence	C 513	12	54.5	73	6	I82586	I82586 Sequence 27
441	12.2	55.5	65	6	CO560376	CO560376 Sequence	C 514	12	54.5	73	6	AR368452	AR368452 Sequence
442	12.2	55.5	65	6	CO560785	CO560785 Sequence	C 515	12	54.5	73	6	AR391644	AR391644 Sequence
443	12.2	55.5	65	6	CO561204	CO561204 Sequence	C 516	12	54.5	74	6	AR012411	AR012411 Sequence
444	12.2	55.5	74	1	MCTRIG	XI6749 Mycoplasma	C 517	12	54.5	74	6	AR020239	AR020239 Sequence
445	12.2	55.5	74	1	MYCTRG	K00202 M.mycoides	C 518	12	54.5	74	6	AR109260	AR109260 Sequence
446	12.2	55.5	74	10	CP084678	U84678 Cavia porce	C 519	12	54.5	74	6	I82585	I82585 Sequence 26
447	12.2	55.5	74	10	MAU84679	U84679 Mesocricetu	C 520	12	54.5	74	6	AR168451	AR168451 Sequence
448	12.2	55.5	74	10	MMU84681	U84681 Mus musculu	C 521	12	54.5	76	6	AR391643	AR391643 Sequence
449	12.2	55.5	74	10	RNU84683	U84683 Rattus norv	C 522	12	54.5	76	8	ATH520193	ATH520193 Arabidops
450	12.2	55.5	75	4	BTU84676	U84676 Bos taurus	C 523	12	54.5	76	8	ATH527593	ATH527593 Arabidops
451	12.2	55.5	75	4	CFU84677	U84677 Canis famli	C 524	12	54.5	77	6	I44744	I44744 Sequence 7
452	12.2	55.5	75	4	FCU84675	U84675 Felis catus	C 525	12	54.5	77	6	I44840	I44840 Sequence 7
453	12.2	55.5	75	4	SSU84682	U84682 Sus scrofa	C 526	12	54.5	77	6	I59524	I59524 Sequence 7
454	12.2	55.5	75	4	U82128	U82128 Oryctolagus	C 527	12	54.5	79	6	AX916889	AX916889 Sequence
455	12.2	55.5	75	5	U82124	U82124 Anas platyr	C 528	12	54.5	79	6	BD052422	BD052422 Sequence
456	12.2	55.5	75	5	CAU84680	U84680 Cercopithe	C 529	12	54.5	81	6	AF015933	AF015933 Trypetea
457	12.2	55.5	87	6	AR111210	AR111210 Sequence	C 530	12	54.5	81	6	AX694553	AX694553 Sequence

531	12	54.5	86	6	CQ079139	CQ079139 Sequence	604	11.6	52.7	19	6	AX130308	AX130308 Sequence
532	12	54.5	86	6	CQ110568	CQ110568 Sequence	605	11.6	52.7	20	6	AX295397	AX295397 Sequence
533	12	54.5	86	6	CQ149299	CQ149299 Sequence	606	11.6	52.7	21	6	BD260412	BD260412 Methods
534	12	54.5	86	6	CQ184236	CQ184236 Sequence	607	11.6	52.7	21	6	AR294356	AR294356 Sequence
535	12	54.5	86	6	CQ232575	CQ232575 Sequence	608	11.6	52.7	21	6	AX044357	AX044357 Sequence
536	12	54.5	86	6	CQ270621	CQ270621 Sequence	609	11.6	52.7	21	6	AX598774	AX598774 Sequence
537	12	54.5	86	6	CQ307889	CQ307889 Sequence	610	11.6	52.7	23	6	AX809479	AX809479 Sequence
538	12	54.5	86	6	CQ344721	CQ344721 Sequence	611	11.6	52.7	24	6	AX290764	AX290764 Sequence
539	12	54.5	87	1	SEQ249872	AJ249872 Sequence	612	11.6	52.7	27	6	AR198681	AR198681 Sequence
540	12	54.5	93	10	CGA277520	AJ277520 Cricleomy	613	11.6	52.7	28	6	A28066	A28066 GAD sequence
541	12	54.5	93	10	CMY275540	AJ275540 Calomyen	614	11.6	52.7	28	6	AR058239	AR058239 Sequence
542	12	54.5	93	10	DFE275550	AJ275550 Deomy's Fe	615	11.6	52.7	28	6	AR145357	AR145357 Sequence
543	12	54.5	93	10	DT0275535	AJ275535 Dicroston	616	11.6	52.7	29	6	AX099597	AX099597 Sequence
544	12	54.5	93	10	JUA275535	AJ275535 Jaculus J	617	11.6	52.7	29	6	BD023184	BD023184 Secretary
545	12	54.5	93	10	LS1275595	AJ275595 Lophuromy	618	11.6	52.7	30	6	AX351713	AX351713 Secretary
546	12	54.5	93	10	MAI275560	AJ275560 Mystromy	619	11.6	52.7	31	6	AX223444	AX223444 Sequence
547	12	54.5	97	6	I35450	I35450 Sequence 1	620	11.6	52.7	32	6	AX771069	AX771069 Sequence
548	12	54.5	97	6	I35463	I35463 Sequence 14	621	11.6	52.7	34	6	AR102871	AR102871 Sequence
549	12	54.5	98	6	I35474	I35474 Sequence 25	622	11.6	52.7	34	6	AR129415	AR129415 Sequence
550	12	54.5	100	6	AX993279	AX993279 Sequence	623	11.6	52.7	35	6	I31649	I31649 Sequence 1
551	12	54.5	100	6	AX998639	AX998639 Sequence	624	11.6	52.7	36	6	I21472	I21472 Sequence 19
552	11.8	53.6	21	6	AR104972	AR104972 Sequence	625	11.6	52.7	40	6	A83619	A83619 Sequence 48
553	11.8	53.6	21	6	AR145835	AR145835 Sequence	626	11.6	52.7	40	6	AX516058	AX516058 Sequence
554	11.8	53.6	21	6	AR148833	AR148833 Sequence	627	11.6	52.7	41	6	I15394	I15394 Sequence 16
555	11.8	53.6	21	6	E35279	E35279 Assay of Ch	628	11.6	52.7	41	6	AX516057	AX516057 Sequence
556	11.8	53.6	21	6	AR442056	AR442056 Sequence	629	11.6	52.7	42	6	AR140327	AR140327 Sequence
557	11.8	53.6	21	6	AX352015	AX352015 Sequence	630	11.6	52.7	42	6	AR287306	AR287306 Sequence
558	11.8	53.6	22	6	AX352034	AX352034 Sequence	631	11.6	52.7	44	6	I43051	I43051 Sequence 34
559	11.8	53.6	22	6	AX352287	AX352287 Sequence	632	11.6	52.7	45	6	AR099100	AR099100 Sequence
560	11.8	53.6	25	6	AR164828	AR164828 Sequence	633	11.6	52.7	45	6	AR099103	AR099103 Sequence
561	11.8	53.6	25	6	AR490629	AR490629 Sequence	634	11.6	52.7	48	6	I01030	I01030 Sequence 13
562	11.8	53.6	25	6	AX610740	AX610740 Sequence	635	11.6	52.7	49	6	AX528865	AX528865 Sequence
563	11.8	53.6	26	6	AX351718	AX351718 Sequence	636	11.6	52.7	51	6	AR014098	AR014098 Sequence
564	11.8	53.6	27	6	E36244	E36244 Human sennp	637	11.6	52.7	51	6	AR051752	AR051752 Sequence
565	11.8	53.6	27	6	AX001308	AX001308 Sequence	638	11.6	52.7	51	6	I18415	I18415 Sequence 22
566	11.8	53.6	27	6	AX452090	AX452090 Sequence	639	11.6	52.7	51	6	I49697	I49697 Sequence 55
567	11.8	53.6	27	6	AX452091	AX452091 Sequence	640	11.6	52.7	51	6	AR200075	AR200075 Sequence
568	11.8	53.6	27	6	BD172030	BD172030 Mutant of	641	11.6	52.7	51	6	AX156985	AX156985 Sequence
569	11.8	53.6	27	6	BD172031	BD172031 Mutant of	642	11.6	52.7	51	6	AX156986	AX156986 Sequence
570	11.8	53.6	28	6	AX351760	AX351760 Sequence	643	11.6	52.7	51	6	AX159757	AX159757 Sequence
571	11.8	53.6	32	6	AR308126	AR308126 Sequence	644	11.6	52.7	51	6	AX159758	AX159758 Sequence
572	11.8	53.6	36	6	AR107045	AR107045 Sequence	645	11.6	52.7	51	6	AX165346	AX165346 Sequence
573	11.8	53.6	40	6	A13305	A13305 Oligonucleo	646	11.6	52.7	51	6	AX165712	AX165712 Sequence
574	11.8	53.6	40	6	AR035187	AR035187 Sequence	647	11.6	52.7	51	6	HUNTCDV1CX	HUNTCDV1CX
575	11.8	53.6	40	6	AX352149	AX352149 Sequence	648	11.6	52.7	60	6	CQ541146	CQ541146 Sequence
576	11.8	53.6	40	6	AX352284	AX352284 Sequence	649	11.6	52.7	60	6	CQ544565	CQ544565 Sequence
577	11.8	53.6	41	6	AX516831	AX516831 Sequence	650	11.6	52.7	60	6	CQ544616	CQ544616 Sequence
578	11.8	53.6	41	6	AX518727	AX518727 Sequence	651	11.6	52.7	60	6	CQ546863	CQ546863 Sequence
579	11.8	53.6	45	6	AX300423	AX300423 Sequence	652	11.6	52.7	60	6	CQ548080	CQ548080 Sequence
580	11.8	53.6	47	6	AR308125	AR308125 Sequence	653	11.6	52.7	60	6	CQ548614	CQ548614 Sequence
581	11.8	53.6	60	6	CQ539582	CQ539582 Sequence	654	11.6	52.7	60	6	CQ552030	CQ552030 Sequence
582	11.8	53.6	60	6	CQ546682	CQ546682 Sequence	655	11.6	52.7	60	6	CQ552804	CQ552804 Sequence
583	11.8	53.6	64	9	S78693	S78693 alpha CREB-	656	11.6	52.7	60	6	CQ784695	CQ784695 Sequence
584	11.8	53.6	65	6	CQ554811	CQ554811 Sequence	657	11.6	52.7	60	6	I25129	I25129 Sequence 17
585	11.8	53.6	65	6	CQ557869	CQ557869 Sequence	658	11.6	52.7	60	6	AX601358	AX601358 Sequence
586	11.8	53.6	66	6	AR053093	AR053093 Sequence	659	11.6	52.7	60	6	BD141966	BD141966 Gene dete
587	11.8	53.6	66	6	AR065054	AR065054 Sequence	660	11.6	52.7	60	6	BD141967	BD141967 Gene dete
588	11.8	53.6	66	6	AX918703	AX918703 Sequence	661	11.6	52.7	60	6	BD141968	BD141968 Gene dete
589	11.8	53.6	66	6	BD054236	BD054236 Sequence	662	11.6	52.7	60	6	BD141969	BD141969 Gene dete
590	11.8	53.6	69	6	AR308131	AR308131 Sequence	663	11.6	52.7	61	6	AX612705	AX612705 Sequence
591	11.8	53.6	77	6	AR042627	AR042627 Sequence	664	11.6	52.7	61	9	AF013720	AF013720 Homo sapi
592	11.8	53.6	77	6	AR064760	AR064760 Sequence	665	11.6	52.7	61	9	AF013721	AF013721 Homo sapi
593	11.8	53.6	77	6	AR476784	AR476784 Sequence	666	11.6	52.7	65	6	CQ530979	CQ530979 Sequence
594	11.8	53.6	79	6	A18331	A18331 Oligonucleo	667	11.6	52.7	65	6	CQ531255	CQ531255 Sequence
595	11.8	53.6	81	9	S78695	S78695 alpha Delta	668	11.6	52.7	65	6	CQ531849	CQ531849 Sequence
596	11.8	53.6	85	8	NEUMTTRL1	K00145 Neurospora	669	11.6	52.7	65	6	CQ532078	CQ532078 Sequence
597	11.8	53.6	86	6	AR053094	AR053094 Sequence	670	11.6	52.7	65	6	CQ534422	CQ534422 Sequence
598	11.8	53.6	86	6	AR065055	AR065055 Sequence	671	11.6	52.7	65	6	CQ557310	CQ557310 Sequence
599	11.8	53.6	87	14	S57841	S57841 Sigma virus	672	11.6	52.7	65	6	AX484251	AX484251 Sequence
600	11.8	53.6	93	6	AX896554	AX896554 Sequence	673	11.6	52.7	69	6	A33451	A33451 Synthetic p
601	11.8	53.6	93	6	BD032087	BD032087 Sequence	674	11.6	52.7	69	6	A33452	A33452 Synthetic p
602	11.8	53.6	99	9	AF007845	AF007845 Homo sapi	675	11.6	52.7	75	6	AR009196	AR009196 Sequence
603	11.8	53.6	100	6	AX997299	AX997299 Sequence	676	11.6	52.7	75	6	AR078717	AR078717 Sequence

677	11.6	52.7	75	6	I25146	I25146 Sequence 42	750	11.4	51.8	39	6	AR011688	AR011688 Sequence
678	11.6	52.7	75	6	I32462	I32462 Sequence 44	751	11.4	51.8	39	6	I58330	I58330 Sequence 1
679	11.6	52.7	75	6	AR198637	AR198637 Sequence	752	11.4	51.8	39	6	192478	192478 Sequence 1
680	11.6	52.7	75	11	BX295197	BX295197 Arabidops	c 753	11.4	51.8	40	6	AX554128	AX554128 Sequence
681	11.6	52.7	76	6	AR042702	AR042702 Sequence	754	11.4	51.8	42	6	I40772	I40772 Sequence 10
682	11.6	52.7	76	6	AR064835	AR064835 Sequence	755	11.4	51.8	43	6	AR267989	AR267989 Sequence
683	11.6	52.7	77	6	AR476859	AR476859 Sequence	756	11.4	51.8	43	6	AX384844	AX384844 Sequence
684	11.6	52.7	77	6	AX31178	AX31178 linker 7 fr	757	11.4	51.8	47	6	AX428582	AX428582 Sequence
685	11.6	52.7	78	1	TRN3TNPA	J01833 Escherichia	c 758	11.4	51.8	48	6	AX772583	AX772583 Sequence
686	11.6	52.7	83	6	AX31147	AX31147 linker 5 fr	759	11.4	51.8	47	6	I40774	I40774 Sequence 10
687	11.6	52.7	83	6	AX31148	AX31148 linker 5 fr	760	11.4	51.8	48	6	I40977	I40977 Sequence 6
688	11.6	52.7	83	6	AR228768	AR228768 Sequence	c 761	11.4	51.8	48	6	AR442882	AR442882 Sequence
689	11.6	52.7	83	6	BD003292	BD003292 Polypepti	762	11.4	51.8	50	6	AX165895	AX165895 Sequence
690	11.6	52.7	85	6	AX31179	AX31179 linker 7 fr	763	11.4	51.8	51	6	AX199284	AX199284 Sequence
691	11.6	52.7	90	6	AR029739	AR029739 Sequence	764	11.4	51.8	55	6	I22467	I22467 Sequence 16
692	11.6	52.7	90	6	AR035738	AR035738 Sequence	765	11.4	51.8	55	6	I45543	I45543 Sequence 16
693	11.6	52.7	90	6	AR044958	AR044958 Sequence	766	11.4	51.8	57	6	AR355738	AR355738 Sequence
694	11.6	52.7	90	6	I52244	I52244 Sequence 46	767	11.4	51.8	57	6	AR059299	AR059299 Sequence
695	11.6	52.7	90	6	AR374453	AR374453 Sequence	c 768	11.4	51.8	59	6	C0536412	C0536412 Sequence
696	11.6	52.7	91	6	I02847	I02847 Sequence 3	769	11.4	51.8	60	6	C0536415	C0536415 Sequence
697	11.6	52.7	91	6	I03202	I03202 Sequence 3	c 770	11.4	51.8	60	6	C0537004	C0537004 Sequence
698	11.6	52.7	96	11	AL954547	AL954547 Arabidops	c 771	11.4	51.8	60	6	C0537078	C0537078 Sequence
699	11.6	52.7	97	6	I35461	I35461 Sequence 12	c 772	11.4	51.8	60	6	C0539965	C0539965 Sequence
700	11.6	52.7	98	6	I35470	I35470 Sequence 21	c 773	11.4	51.8	60	6	C0541384	C0541384 Sequence
701	11.6	52.7	99	6	AR016661	AR016661 Sequence	c 774	11.4	51.8	60	6	C0543336	C0543336 Sequence
702	11.6	52.7	100	6	CQ000670	CQ000670 Sequence	775	11.4	51.8	60	6	C0543316	C0543316 Sequence
703	11.6	52.7	100	6	AX990489	AX990489 Sequence	776	11.4	51.8	60	6	C0544397	C0544397 Sequence
704	11.6	52.7	100	6	AX990490	AX990490 Sequence	c 777	11.4	51.8	60	6	C0544406	C0544406 Sequence
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706	11.6	52.7	100	6	AX997822	AX997822 Sequence	779	11.4	51.8	60	6	C0549504	C0549504 Sequence
707	11.6	52.7	100	10	MUSE2PR	M15109 Mouse Tetrat	c 780	11.4	51.8	60	6	C0549665	C0549665 Sequence
708	11.4	51.8	17	6	BD254845	BD254845 Regulatio	c 781	11.4	51.8	60	6	C0552502	C0552502 Sequence
709	11.4	51.8	17	6	BD254846	BD254846 Regulatio	c 782	11.4	51.8	60	6	C0552595	C0552595 Sequence
710	11.4	51.8	17	6	BD254847	BD254847 Regulatio	c 783	11.4	51.8	60	6	C0552897	C0552897 Sequence
711	11.4	51.8	18	6	BD186461	BD186461 Method of	c 784	11.4	51.8	60	6	BD102314	BD102314 Probe for
712	11.4	51.8	20	6	CQ814691	CQ814691 Sequence	c 785	11.4	51.8	64	6	AX543891	AX543891 Sequence
713	11.4	51.8	20	6	AR281449	AR281449 Sequence	c 786	11.4	51.8	65	6	C0534184	C0534184 Sequence
714	11.4	51.8	21	6	BD274405	BD274405 MOC-1 ant	c 787	11.4	51.8	65	6	C0554340	C0554340 Sequence
715	11.4	51.8	24	6	AR264240	AR264240 Sequence	c 788	11.4	51.8	65	6	C0556430	C0556430 Sequence
716	11.4	51.8	26	6	A17261	A17261 Oligonucleo	c 789	11.4	51.8	65	6	C0556712	C0556712 Sequence
717	11.4	51.8	26	6	AR027644	AR027644 Sequence	c 790	11.4	51.8	65	6	C0557536	C0557536 Sequence
718	11.4	51.8	27	6	AR040685	AR040685 Sequence	791	11.4	51.8	65	6	C0557824	C0557824 Sequence
719	11.4	51.8	27	6	AR040686	AR040686 Sequence	c 792	11.4	51.8	65	6	C0557824	C0557824 Sequence
720	11.4	51.8	27	6	AR069492	AR069492 Sequence	c 793	11.4	51.8	65	6	C0557955	C0557955 Sequence
721	11.4	51.8	27	6	AR069493	AR069493 Sequence	c 794	11.4	51.8	65	6	C0559078	C0559078 Sequence
722	11.4	51.8	27	6	AR360517	AR360517 Sequence	795	11.4	51.8	65	6	C0559283	C0559283 Sequence
723	11.4	51.8	27	6	BD096272	BD096272 Method fo	796	11.4	51.8	65	6	C0559464	C0559464 Sequence
724	11.4	51.8	30	6	AR261688	AR261688 Sequence	797	11.4	51.8	65	6	C0559570	C0559570 Sequence
725	11.4	51.8	30	6	AR261689	AR261689 Sequence	c 798	11.4	51.8	65	6	C0559575	C0559575 Sequence
726	11.4	51.8	31	6	A41283	A41283 Sequence 12	c 799	11.4	51.8	65	6	C0561130	C0561130 Sequence
727	11.4	51.8	31	6	A61419	A61419 Sequence 13	c 800	11.4	51.8	65	6	C0561124	C0561124 Sequence
728	11.4	51.8	31	6	A92744	A92744 Sequence 16	c 801	11.4	51.8	65	6	C0815923	C0815923 Sequence
729	11.4	51.8	31	6	AR182014	AR182014 Sequence	c 802	11.4	51.8	67	7	PX1ENDSCB	PX1ENDSCB
730	11.4	51.8	31	6	AR334350	AR334350 Sequence	803	11.4	51.8	69	6	AX906423	AX906423 Sequence
731	11.4	51.8	32	6	AX781652	AX781652 Sequence	804	11.4	51.8	69	6	BD041956	BD041956 Sequence
732	11.4	51.8	32	6	AX798124	AX798124 Sequence	805	11.4	51.8	71	6	AR193243	AR193243 Sequence
733	11.4	51.8	32	9	AF505551	AF505551 Homo sapi	806	11.4	51.8	71	6	AR491243	AR491243 Sequence
734	11.4	51.8	33	6	AX230241	AX230241 Sequence	807	11.4	51.8	75	6	AX241128	AX241128 Sequence
735	11.4	51.8	33	6	AX718907	AX718907 Sequence	c 808	11.4	51.8	75	6	AX241128	AX241128 Sequence
736	11.4	51.8	33	6	AX718908	AX718908 Sequence	c 809	11.4	51.8	75	6	S7829582	S7829582 Sequence
737	11.4	51.8	34	6	AR041145	AR041145 Sequence	810	11.4	51.8	76	4	AR042622	AR042622 Sequence
738	11.4	51.8	35	6	A42827	A42827 Sequence	811	11.4	51.8	76	6	AR042703	AR042703 Sequence
739	11.4	51.8	35	6	I87333	I87333 Sequence 15	812	11.4	51.8	76	6	AR064755	AR064755 Sequence
740	11.4	51.8	36	6	AR104912	AR104912 Sequence	813	11.4	51.8	76	6	AR064836	AR064836 Sequence
741	11.4	51.8	36	6	AR160939	AR160939 Sequence	814	11.4	51.8	76	6	I40689	I40689 Sequence 20
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823	11.4	51.8	76	6	AR476860	AR476860 Sequence	C 896	11.2	50.9	20	6	AR314152	AR314152 Sequence
C 824	11.4	51.8	76	8	ATH526684	AJ526684 Arabidops	C 897	11.2	50.9	20	6	AX487949	AX487949 Sequence
825	11.4	51.8	77	6	AR012726	AR012726 Sequence	C 898	11.2	50.9	20	12	ASE242597	AJ742597 Artificial
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833	11.4	51.8	77	6	AR092071	AR092071 Sequence	C 906	11.2	50.9	23	6	AR475158	AR475158 Sequence
834	11.4	51.8	77	6	AR359353	AR359353 Sequence	C 907	11.2	50.9	23	6	AR070885	AR070885 Sequence
835	11.4	51.8	77	6	AR476770	AR476770 Sequence	C 908	11.2	50.9	24	6	AR429447	AR429447 Sequence
836	11.4	51.8	77	6	AR476787	AR476787 Sequence	C 909	11.2	50.9	24	6	AX290403	AX290403 Sequence
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C 841	11.4	51.8	84	9	HSNAD12	AF140736 Homo sapi	C 914	11.2	50.9	25	6	E30808	E30808 Novel prote
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C 843	11.4	51.8	85	6	A71864	A71864 Sequence 4	C 916	11.2	50.9	25	6	AR234338	AR234338 Sequence
C 844	11.4	51.8	85	6	AR491144	AR491144 Sequence	C 917	11.2	50.9	25	6	AR344510	AR344510 Sequence
C 845	11.4	51.8	85	6	AR431145	AR431145 Sequence	C 918	11.2	50.9	25	6	AR434484	AR434484 Sequence
C 846	11.4	51.8	85	8	SCSNOR25	Z69297 S. cerevisia	C 919	11.2	50.9	25	6	AR434494	AR434494 Sequence
C 847	11.4	51.8	87	6	AR026137	AR026137 Sequence	C 920	11.2	50.9	25	6	AR348889	AR348889 Sequence
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C 854	11.4	51.8	91	6	NTA538618	AJ538618 Nicotiana	C 927	11.2	50.9	25	6	AX783173	AX783173 Sequence
C 855	11.4	51.8	94	6	CQ760847	CQ760847 Sequence	C 928	11.2	50.9	25	6	AX783174	AX783174 Sequence
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C 857	11.4	51.8	97	9	PHABO2	AP100970 Papio ham	C 930	11.2	50.9	25	6	AX783176	AX783176 Sequence
C 858	11.4	51.8	98	6	CQ057402	CQ057402 Sequence	C 931	11.2	50.9	25	6	AX783177	AX783177 Sequence
C 859	11.4	51.8	98	6	CQ076681	CQ076681 Sequence	C 932	11.2	50.9	25	6	AX783178	AX783178 Sequence
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C 864	11.4	51.8	98	6	CQ229531	CQ229531 Sequence	C 937	11.2	50.9	26	6	A29261	A29261 XhoI site D
C 865	11.4	51.8	98	6	CQ267668	CQ267668 Sequence	C 938	11.2	50.9	26	6	A36745	A36745 Sequence 1
C 866	11.4	51.8	98	6	CQ304688	CQ304688 Sequence	C 939	11.2	50.9	27	6	I40319	I40319 Sequence 8
C 867	11.4	51.8	98	6	CQ341941	CQ341941 Sequence	C 940	11.2	50.9	28	6	AR094624	AR094624 Sequence
C 868	11.4	51.8	99	8	SS2652	PTxY1-pre-t	C 941	11.2	50.9	28	6	AR175704	AR175704 Sequence
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C 887	11.2	50.9	17	6	AR433669	AR433669 Sequence	C 960	11.2	50.9	35	6	A62518	A62518 Sequence 23
C 888	11.2	50.9	17	6	AR433671	AR433671 Sequence	C 961	11.2	50.9	35	6	A72391	A72391 Sequence 23
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C 893	11.2	50.9	17	6	AX782430	AX782430 Sequence	C 966	11.2	50.9	35	6	AR027903	AR027903 Sequence
C 894	11.2	50.9	19	6	AR365577	AR365577 Sequence	C 967	11.2	50.9	35	6	AR029001	AR029001 Sequence
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c 971	11.2	50.9	35	6	AR065507	Sequence
c 972	11.2	50.9	35	6	AR065939	Sequence
c 973	11.2	50.9	35	6	AR080290	Sequence
c 974	11.2	50.9	35	6	AR095408	Sequence
c 975	11.2	50.9	35	6	BD182411	Am agent
c 976	11.2	50.9	35	6	BD224104	Mammaglob
c 977	11.2	50.9	35	6	E11123	E21339 Antipody ag
c 978	11.2	50.9	35	6	E23339	E21339 Antipody ag
c 979	11.2	50.9	35	6	E27108	Remedy for
c 980	11.2	50.9	35	6	I13145	Sequence 8
c 981	11.2	50.9	35	6	I21563	Sequence 11
c 982	11.2	50.9	35	6	I38345	Sequence 6
c 983	11.2	50.9	35	6	I65740	Sequence 9
c 984	11.2	50.9	35	6	I83799	Sequence 9
c 985	11.2	50.9	35	6	AR234340	Sequence
c 986	11.2	50.9	35	6	AR322241	Sequence
c 987	11.2	50.9	35	6	AR452587	Sequence
c 988	11.2	50.9	35	6	BD011939	Ameliorat
c 989	11.2	50.9	35	6	BD011995	Therapeut
c 990	11.2	50.9	35	6	BD012056	Therapeut
c 991	11.2	50.9	35	6	BD012943	Inhibitin
c 992	11.2	50.9	35	6	BD080828	Mammaglob
c 993	11.2	50.9	35	6	BD095513	Remedies
c 994	11.2	50.9	35	6	BD095674	Stable an
c 995	11.2	50.9	35	6	BD140999	An agent
c 996	11.2	50.9	36	6	A42821	Sequence 15
c 997	11.2	50.9	36	6	I87327	Sequence 15
c 998	11.2	50.9	36	6	AR344508	Sequence
c 999	11.2	50.9	36	6	AX391235	Sequence
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ALIGNMENTS

RESULT 1
LOCUS BD182369 22 bp DNA linear PAT 15-MAY-2003
DEFINITION Anti-tumor antigens or their epitopes against HTLV-1 tumor.
ACCESSION BD182369
VERSION BD182369.1 GI:30793287
KEYWORDS WO 02090981-A/1.
SOURCE synthetic construct
ORGANISM synthetic construct
REFERENCE 1 (bases 1 to 22)
AUTHORS Hanabuchi,S., Ohashi,T. and Kannagi,M.
TITLE Anti-tumor antigens or their epitopes against HTLV-1 tumor
JOURNAL Patent: WO 02090981-A 1 14-NOV-2002;
JAPAN SCIENCE AND TECHNOLOGY CORP,SHINO HANABUCHI,TAKASHI OHASHI,
MARI KANNAGI
COMMENT OS Artificial Sequence
PN WO 02090981-A/1
PD 14-NOV-2002
PF 02-MAY-2002 WO 2002JP004406
PR 08-MAY-2001 JP OIP 137526
PT SHINO HANABUCHI,TAKASHI OHASHI,MARI KANNAGI
PC G01N33/50,G01N33/15,A61K39/00
CC Description of Artificial Sequence:ISS-ODN
FH Key Location/Qualifiers
FT source 1..22
FT Location/Qualifiers

FEATURES

source 1..22 Location/Qualifiers
1..22 /organism="synthetic construct"
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ORIGIN

Query Match 100.0%; Score 22; DB 6; Length 22;
Best Local Similarity 100.0%; Pred. No. 0.46;

Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
QY 1 TGACTGTGAACCTTCGAGATGA 22
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1 TGACTGTGAACCTTCGAGATGA 22
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RESULT 2
LOCUS BD185615 22 bp DNA linear PAT 17-JUN-2003
DEFINITION Anti-tumor antigens or their epitopes against HTLV-I tumor.
ACCESSION BD185615
VERSION BD185615.1 GI:31877815
KEYWORDS JP 2002372532-A/1.
SOURCE synthetic construct
ORGANISM synthetic construct
REFERENCE 1 (bases 1 to 22)
AUTHORS Hanabuchi,S., Ohashi,T. and Kannagi,M.
TITLE Anti-tumor antigens or their epitopes against HTLV-I tumor
JOURNAL Patent: JP 2002372532-A 1 26-DEC-2002;
JAPAN SCIENCE AND TECHNOLOGY CORP
COMMENT OS Artificial Sequence
PN JP 2002372532-A/1
PD 26-DEC-2002
PF 08-MAY-2001 JP 2001137526
PT SHINO HANABUCHI,TAKASHI OHASHI,MARI KANNAGI
PC G01N33/50,A61K39/00,A61K39/21,A61P35/00,A61P35/02,A61P37/04,
PC C12N5/06,C12Q1/02,G01N33/00,G01N33/15,G01N33/53,G01N33/53, PC
G01N33/56,
PC G01N33/574
CC Description of Artificial Sequence:ISS-ODN
FH Key Location/Qualifiers
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FT Location/Qualifiers

FEATURES
source 1..22 Location/Qualifiers
1..22 /organism="synthetic construct"
/mol_type="genomic DNA"
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Query Match 100.0%; Score 22; DB 6; Length 22;
Best Local Similarity 100.0%; Pred. No. 0.46;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 TGACTGTGAACCTTCGAGATGA 22
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Db

RESULT 3
LOCUS BD190435 22 bp DNA linear PAT 17-JUL-2003
DEFINITION Microemulsions with Adsorbed Macromolecules and Microparticles.
ACCESSION BD190435
VERSION BD190435.1 GI:33000174
KEYWORDS JP 2002537102-A/19.
SOURCE synthetic construct
ORGANISM synthetic construct
REFERENCE 1 (bases 1 to 22)
AUTHORS Barackman,J., Simph,M., Ugozoli,M., Kazazu,J., Donnelly,J.,
Ott,G.S. and Ohagan,D.
TITLE Microemulsions with Adsorbed Macromolecules and Microparticles
JOURNAL Chiron Corporation
OS Artificial Sequence
PN JP 2002537102-A/19
PD 05-NOV-2002
PF 09-FEB-2000 JP 2000600618
PR 29-JUL-1999 US 60/146391,28-OCT-1999 US 60/161997, PR

26-FEB-1999 US 60/121858
PI John barackman,mamohan simph,mildred ugozoli,jina kazazu,john
PI donnelly,
PI gary s ott,derek ohagan
CC Oligonucleotide
FH Key Location/Qualifiers.
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/mol_type="genomic DNA"
/db_xref="taxon:32630"

ORIGIN
Query Match 100.0%; Score 22; DB 6; Length 22;
Best Local Similarity 100.0%; Pred. No. 0.46;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 TGAAGTGAACGTTGAGATGA 22
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1 TGAAGTGAACGTTGAGATGA 22

Db 1 TGAAGTGAACGTTGAGATGA 22

RESULT 4
BD228690 22 bp DNA linear PAT 17-JUL-2003
LOCUS BD228690
DEFINITION Methods and adjuvants for stimulating mucosal immunity.
ACCESSION BD228690
VERSION BD228690.1 GI:33038460
KEYWORDS JP 2002526425-A/19.
SOURCE synthetic construct
ORGANISM synthetic construct
artificial sequences.
1 (bases 1 to 22)

REFERENCE
AUTHORS Raz,B., Horner,A.A. and Carson,D.A.
TITLE Methods and adjuvants for stimulating mucosal immunity
JOURNAL Patent: JP 2002526425-A 19 20-AUG-2002;
THE REGENTS OF THE UNIVERSITY OF CALIFORNIA
COMMENT OS Artificial Sequence
PN JP 2002526425-A/19
PD 20-AUG-2002 JP 2005573397
PF 15-SEP-1999 JP 2005573397
PR 05-OCT-1998 US 09/167039
PI EYAL RAZ, ANTHONY A HORNER, DENNIS A CARSON
PC A61K39/39,A61K31/7088,A61K31/7105,A61K31/711,A61P11/00 PC
PC A61P27/14,A61P37/04
PC C12N15/09,G01N33/15,G01N33/50//C12N5/10,G01N33/531,C12N15/00,
PC C12N5/00
CC non-coding oligonucleotides
FH Key Location/Qualifiers
FT source 1. .22
/organism='Artificial Sequence'.
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Location/Qualifiers
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/mol_type="genomic DNA"
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FEATURES
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ORIGIN
Query Match 100.0%; Score 22; DB 6; Length 22;
Best Local Similarity 100.0%; Pred. No. 0.46;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 TGAAGTGAACGTTGAGATGA 22
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1 TGAAGTGAACGTTGAGATGA 22

Db 1 TGAAGTGAACGTTGAGATGA 22

RESULT 5
BD233617 22 bp DNA linear PAT 17-JUL-2003
LOCUS BD233617
DEFINITION Immunostimulatory oligonucleotides, compositions thereof and
methods of use thereof.

ACCESSION BD233617
VERSION BD233617.1 GI:33043387
KEYWORDS JP 2002517156-A/2.
SOURCE unidentified
ORGANISM unidentified
unclassified.
1 (bases 1 to 22)

REFERENCE
AUTHORS Schwartz,D., Roman,M., Dina,D. and Raz,E.
TITLE Immunostimulatory oligonucleotides, compositions thereof and
methods of use thereof
JOURNAL Patent: JP 2002517156-A 2 11-JUN-2002;
DYNVAX TECHNOLOGIES CORP
COMMENT OS Unidentified
PN JP 2002517156-A/2
PD 11-JUN-2002
PF 05-JUN-1998 JP 1999502884
PI DAVID SCHWARTZ, MARK ROMAN, DINO DINA, EYAL RAZ
PC C12N15/09,A61K31/7088,A61K31/7115,A61P37/02,A61P43/00,C12Q1/68, PC
C12N15/00
CC Strandedness: Single;
CC Topology: linear;
CC Immunostimulatory oligonucleotides, compositions thereof and
methods of use thereof
CC use thereof Location/Qualifiers
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FT source /organism='Unidentified'.
Location/Qualifiers
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FEATURES
source

ORIGIN
Query Match 100.0%; Score 22; DB 6; Length 22;
Best Local Similarity 100.0%; Pred. No. 0.46;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 TGAAGTGAACGTTGAGATGA 22
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1 TGAAGTGAACGTTGAGATGA 22

Db 1 TGAAGTGAACGTTGAGATGA 22

RESULT 6
BD251283 22 bp DNA linear PAT 17-JUL-2003
LOCUS BD251283
DEFINITION Enhancement of Neisseria antigen bactericidal activity using CG
motif-containing oligonucleotide.
ACCESSION BD251283
VERSION BD251283.1 GI:33061053
KEYWORDS JP 2002537353-A/19.
SOURCE synthetic construct
ORGANISM synthetic construct
artificial sequences.
1 (bases 1 to 22)

REFERENCE
AUTHORS Grandi,G., Rappuoli,R., Giuliani,M.M. and Pizzi,M.
TITLE Enhancement of Neisseria antigen bactericidal activity using CG
motif-containing oligonucleotide
JOURNAL Patent: JP 2002537353-A 19 05-NOV-2002;
CHIRON SPA
COMMENT OS Artificial Sequence
PN JP 2002537353-A/19
PD 05-NOV-2002
PF 09-FEB-2000 JP 2000600685
PR 26-FEB-1999 US 60/121792
PI GUIDO GRANDI, RINO RAPPUOLI, MARZIA MONICA GIULIANI, MARIAGRAZIA
PI PIZZA
PC A61K39/095,A61K31/7088,A61K39/39,A61P31/04//C07K4/22,C12N15/
PC 09,C12N15/00
CC oligonucleotide adjuvant
FH Key Location/Qualifiers

FEATURES
source
FT source 1. .22
/organism='Artificial Sequence'.
Location/Qualifiers
1. .22
/organism="synthetic construct"
/mol_type="genomic DNA"
/db_xref="taxon:32630"

ORIGIN
Query Match 100.0%; Score 22; DB 6; Length 22;
Best Local Similarity 100.0%; Pred. No. 0.46;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 TGACTGTGAACGTTGCAGATGA 22
|||||
1 TGACTGTGAACGTTGCAGATGA 22

Db 1 TGACTGTGAACGTTGCAGATGA 22

RESULT 7
BD272057 22 bp DNA linear PAT 17-JUL-2003
LOCUS Use of stabilized oligonucleotide for producing agents having
DEFINITION antitumor activity.
BD272057
VERSION BD272057.1 GI:33081825
KEYWORDS JP 2002539265-A/2.
SOURCE synthetic construct
ORGANISM synthetic construct
artificial sequences.
1 (bases 1 to 22)

REFERENCE
AUTHORS Carpenter,A.
TITLE Use of stabilized oligonucleotide for producing agents having
JOURNAL antitumor activity
PATENT: JP 2002539265-A 2 19-NOV-2002;
ASSISTANCE PUBLIQUE HOPITAUX DE PARIS. INSTITUT NATIONAL DE LA
SANTÉ ET DE LA RECHERCHE MEDICALE (INSERM)
COMMENT OS Artificial Sequence
PN JP 2002539265-A/2
PD 19-NOV-2002
PF 17-MAR-2000 JP 2000606246
PR 19-MAR-1999 PR 99/03433
PI ANTOINE CARPENTIER
PC A61K47/48;A61K31/711;A61P35/00
CC Description of the Artificial Sequence: oligodeoxynucleotide
FH Key Location/Qualifiers
FT source 1. .22
/organism='Artificial Sequence'.
Location/Qualifiers
1. .22
/organism="synthetic construct"
/mol_type="genomic DNA"
/db_xref="taxon:32630"

ORIGIN
Query Match 100.0%; Score 22; DB 6; Length 22;
Best Local Similarity 100.0%; Pred. No. 0.46;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 TGACTGTGAACGTTGCAGATGA 22
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1 TGACTGTGAACGTTGCAGATGA 22

Db 1 TGACTGTGAACGTTGCAGATGA 22

RESULT 8
AR268334 22 bp DNA linear PAT 10-APR-2003
LOCUS Sequence 19 from patent US 6498148.
DEFINITION AR268334
ACCESSION AR268334
VERSION AR268334.1 GI:29698684
KEYWORDS
SOURCE Unknown.
ORGANISM Unknown.
Unclassified.

REFERENCE
AUTHORS 1 (bases 1 to 22)
TITLE Raz,E.
JOURNAL Immunization-free methods for treating antigen-stimulated
inflammation in a mammalian host and shifting the host's antigen
immune responsiveness to a Th1 phenotype
PATENT: US 6498148-A 19 24-DEC-2002;
FEATURES Location/Qualifiers
source 1. .22
/organism="unknown"
/mol_type="genomic DNA"

ORIGIN
Query Match 100.0%; Score 22; DB 6; Length 22;
Best Local Similarity 100.0%; Pred. No. 0.46;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 TGACTGTGAACGTTGCAGATGA 22
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1 TGACTGTGAACGTTGCAGATGA 22

Db 1 TGACTGTGAACGTTGCAGATGA 22

RESULT 9
AR287741 22 bp DNA linear PAT 12-JUN-2003
LOCUS Sequence 1 from patent US 6534062.
DEFINITION AR287741
ACCESSION AR287741
VERSION AR287741.1 GI:31674761
KEYWORDS
SOURCE Unknown.
ORGANISM Unknown.
Unclassified.
1 (bases 1 to 22)

REFERENCE
AUTHORS Raz,E., Cho,H.J., Richman,D. and Horner,A.A.
TITLE Methods for increasing a cytotoxic T lymphocyte response in vivo
JOURNAL Patent: US 6534062-A 1 18-MAR-2003;
FEATURES Location/Qualifiers
source 1. .22
/organism="unknown"
/mol_type="genomic DNA"

ORIGIN
Query Match 100.0%; Score 22; DB 6; Length 22;
Best Local Similarity 100.0%; Pred. No. 0.46;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 TGACTGTGAACGTTGCAGATGA 22
|||||
1 TGACTGTGAACGTTGCAGATGA 22

Db 1 TGACTGTGAACGTTGCAGATGA 22

RESULT 10
AR287743 22 bp DNA linear PAT 12-JUN-2003
LOCUS Sequence 3 from patent US 6534062.
DEFINITION AR287743
ACCESSION AR287743
VERSION AR287743.1 GI:31674763
KEYWORDS
SOURCE Unknown.
ORGANISM Unknown.
Unclassified.
1 (bases 1 to 22)

REFERENCE
AUTHORS Raz,E., Cho,H.J., Richman,D. and Horner,A.A.
TITLE Methods for increasing a cytotoxic T lymphocyte response in vivo
JOURNAL Patent: US 6534062-A 3 18-MAR-2003;
FEATURES Location/Qualifiers
source 1. .22
/organism="unknown"
/mol_type="genomic DNA"

ORIGIN
Query Match 100.0%; Score 22; DB 6; Length 22;
Best Local Similarity 100.0%; Pred. No. 0.46;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

ORIGIN

Query Match 100.0%; Score 22; DB 6; Length 22;
Best Local Similarity 100.0%; Pred. No. 0.46;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 TGACTGTGAACGTTGCAGATGA 22
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1 TGACTGTGAACGTTGCAGATGA 22

DB 1 TGACTGTGAACGTTGCAGATGA 22

RESULT 16
AX046993 22 bp DNA linear PAT 15-DEC-2000
LOCUS Sequence 2 from Patent WO0067787.
ACCESSION AX046993
VERSION AX046993.1 GI:11876420
KEYWORDS
SOURCE synthetic construct
ORGANISM synthetic construct
REFERENCE 1
AUTHORS Moss, R. B.
TITLE Hiv immunogenic compositions and methods
JOURNAL Patent: WO 0067787-A 2 16-NOV-2000;
THE IMMUNE RESPONSE CORPORATION (US)
FEATURES
source 1..22
/organism="synthetic construct"
/mol_type="unassigned DNA"
/db_xref="taxon:32630"
/note="phosphorothioate-modified synthetic oligodeoxynucleotide"

ORIGIN

Query Match 100.0%; Score 22; DB 6; Length 22;
Best Local Similarity 100.0%; Pred. No. 0.46;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 TGACTGTGAACGTTGCAGATGA 22
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1 TGACTGTGAACGTTGCAGATGA 22

DB 1 TGACTGTGAACGTTGCAGATGA 22

RESULT 17
AX083675 22 bp DNA linear PAT 28-FEB-2001
LOCUS Sequence 1 from Patent WO0112223.
ACCESSION AX083675
VERSION AX083675.1 GI:13185407
KEYWORDS
SOURCE synthetic construct
ORGANISM synthetic construct
REFERENCE 1
AUTHORS van Nest, G.
TITLE Methods of modulating an immune response using immunostimulatory s
JOURNAL enquences and compositions for use therein
PATENT: WO 0112223-A 1 22-FEB-2001;
Dynavax Technologies Corporation (US)
FEATURES
source 1..22
/organism="synthetic construct"
/mol_type="unassigned DNA"
/db_xref="taxon:32630"
/note="Synthetic construct"

ORIGIN

Query Match 100.0%; Score 22; DB 6; Length 22;
Best Local Similarity 100.0%; Pred. No. 0.46;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 TGACTGTGAACGTTGCAGATGA 22

DB 1 TGACTGTGAACGTTGCAGATGA 22
|||||
1 TGACTGTGAACGTTGCAGATGA 22

RESULT 18
AX135650 22 bp DNA linear PAT 29-MAY-2001
LOCUS Sequence 21 from Patent WO0132877.
ACCESSION AX135650
VERSION AX135650.1 GI:14271920
KEYWORDS
SOURCE synthetic construct
ORGANISM synthetic construct
REFERENCE 1
AUTHORS Mackichan, M. L.
TITLE Cpg receptor (cpg-r) and methods relating thereto
JOURNAL Patent: WO 0132877-A 21 10-MAY-2001;
CHIRON CORPORATION (US)
FEATURES
source 1..22
/organism="synthetic construct"
/mol_type="unassigned DNA"
/db_xref="taxon:32630"
/note="Cpg oligonucleotide"

ORIGIN

Query Match 100.0%; Score 22; DB 6; Length 22;
Best Local Similarity 100.0%; Pred. No. 0.46;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 TGACTGTGAACGTTGCAGATGA 22
|||||
1 TGACTGTGAACGTTGCAGATGA 22

DB 1 TGACTGTGAACGTTGCAGATGA 22

RESULT 19
AX148636 22 bp DNA linear PAT 08-JUN-2001
LOCUS Sequence 1 from Patent WO0135991.
ACCESSION AX148636
VERSION AX148636.1 GI:14347254
KEYWORDS
SOURCE synthetic construct
ORGANISM synthetic construct
REFERENCE 1
AUTHORS Tuck, S. and van Nest, G.
TITLE Immunomodulatory compositions containing an immunostimulatory
JOURNAL sequence linked to antigen and methods of use thereof
PATENT: WO 0135991-A 1 25-MAY-2001;
Dynavax Technologies Corporation (US)
FEATURES
source 1..22
/organism="synthetic construct"
/mol_type="unassigned DNA"
/db_xref="taxon:32630"
/note="synthetic construct"

ORIGIN

Query Match 100.0%; Score 22; DB 6; Length 22;
Best Local Similarity 100.0%; Pred. No. 0.46;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 TGACTGTGAACGTTGCAGATGA 22
|||||
1 TGACTGTGAACGTTGCAGATGA 22

DB 1 TGACTGTGAACGTTGCAGATGA 22

RESULT 20
AX250701 22 bp DNA linear PAT 06-OCT-2001
LOCUS Sequence 1 from Patent WO0168078.
DEFINITION

ACCESSION AX250701 GI:15984439
VERSION
KEYWORDS
SOURCE
ORGANISM
REFERENCE
AUTHORS
TITLE
JOURNAL
FEATURES
source
1. .22
/organism="synthetic construct"
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/db_xref="taxon:32630"

ORIGIN
Query Match 100.0%; Score 22; DB 6; Length 22;
Best Local Similarity 100.0%; Pred. No. 0.46;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 TGACTGTGAACGTTGAGATGA 22
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1 TGACTGTGAACGTTGAGATGA 22

Db 1 TGACTGTGAACGTTGAGATGA 22

RESULT 21
AX252291 22 bp DNA linear PAT 05-OCT-2001
LOCUS
DEFINITION
ACCESSION
VERSION
KEYWORDS
SOURCE
ORGANISM
REFERENCE
AUTHORS
TITLE
JOURNAL
FEATURES
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1. .22
/organism="synthetic construct"
/mol_type="unassigned DNA"
/db_xref="taxon:32630"
/note="Polynucleotide containing CG"

ORIGIN
Query Match 100.0%; Score 22; DB 6; Length 22;
Best Local Similarity 100.0%; Pred. No. 0.46;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 TGACTGTGAACGTTGAGATGA 22
|||||
1 TGACTGTGAACGTTGAGATGA 22

Db 1 TGACTGTGAACGTTGAGATGA 22

RESULT 22
AX252509 22 bp DNA linear PAT 05-OCT-2001
LOCUS
DEFINITION
ACCESSION
VERSION
KEYWORDS
SOURCE
ORGANISM
REFERENCE
AUTHORS
TITLE
JOURNAL
FEATURES
source
1. .22
/organism="synthetic construct"
/mol_type="unassigned DNA"
/db_xref="taxon:32630"

TITLE Methods of ameliorating symptoms of herpes infection using
JOURNAL immunomodulatory polynucleotide sequences
Dynaavax Technologies Corporation (US)
FEATURES
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1. .22
/organism="synthetic construct"
/mol_type="unassigned DNA"
/db_xref="taxon:32630"
/note="Polynucleotide containing CG"

ORIGIN
Query Match 100.0%; Score 22; DB 6; Length 22;
Best Local Similarity 100.0%; Pred. No. 0.46;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 TGACTGTGAACGTTGAGATGA 22
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1 TGACTGTGAACGTTGAGATGA 22

Db 1 TGACTGTGAACGTTGAGATGA 22

RESULT 23
AX252520 22 bp DNA linear PAT 05-OCT-2001
LOCUS
DEFINITION
ACCESSION
VERSION
KEYWORDS
SOURCE
ORGANISM
REFERENCE
AUTHORS
TITLE
JOURNAL
FEATURES
source
1. .22
/organism="synthetic construct"
/mol_type="unassigned DNA"
/db_xref="taxon:32630"
/note="Polynucleotide containing CG"

ORIGIN
Query Match 100.0%; Score 22; DB 6; Length 22;
Best Local Similarity 100.0%; Pred. No. 0.46;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 TGACTGTGAACGTTGAGATGA 22
|||||
1 TGACTGTGAACGTTGAGATGA 22

Db 1 TGACTGTGAACGTTGAGATGA 22

RESULT 24
AX252934 22 bp DNA linear PAT 05-OCT-2001
LOCUS
DEFINITION
ACCESSION
VERSION
KEYWORDS
SOURCE
ORGANISM
REFERENCE
AUTHORS
TITLE
JOURNAL
FEATURES
source
1. .22
/organism="synthetic construct"
/mol_type="unassigned DNA"

ORIGIN /db_xref="taxon:32630"
/note="Polynucleotide containing CG"

Query Match 100.0%; Score 22; DB 6; Length 22;
Best Local Similarity 100.0%; Pred. No. 0.46;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 TGAAGTGAACGTTGAGATGA 22
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1 TGAAGTGAACGTTGAGATGA 22

RESULT 25
AX53113 22 bp DNA linear PAT 05-OCT-2001
LOCUS Sequence 1 from Patent WO0168116.
DEFINITION AX53113
ACCESSION AX253113
VERSION AX253113.1 GI:15986281
KEYWORDS
SOURCE synthetic construct
ORGANISM synthetic construct
REFERENCE 1
AUTHORS van Nest,G.
TITLE Methods of preventing and treating respiratory viral infection usi
JOURNAL ng immunomodulatory polynucleotide sequences
Patent: WO 0168116-A 1 20-SEP-2001;
Dynavax Technologies Corporation (US)
FEATURES
source Location/Qualifiers
1.22
/organism="synthetic construct"
/mol_type="unassigned DNA"
/db_xref="taxon:32630"
/note="Polynucleotide containing CG"

ORIGIN /note="Polynucleotide containing CG"

Query Match 100.0%; Score 22; DB 6; Length 22;
Best Local Similarity 100.0%; Pred. No. 0.46;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 TGAAGTGAACGTTGAGATGA 22
|||||
1 TGAAGTGAACGTTGAGATGA 22

RESULT 26
AX253123 22 bp DNA linear PAT 05-OCT-2001
LOCUS Sequence 1 from Patent WO0168077.
DEFINITION AX253123
ACCESSION AX253123
VERSION AX253123.1 GI:15986291
KEYWORDS
SOURCE synthetic construct
ORGANISM synthetic construct
REFERENCE 1
AUTHORS van Nest,G.
TITLE Methods of preventing and treating viral infections using
JOURNAL immunomodulatory polynucleotide sequences
Patent: WO 0168077-A 1 20-SEP-2001;
Dynavax Technologies Corporation (US)
FEATURES
source Location/Qualifiers
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/mol_type="unassigned DNA"
/db_xref="taxon:32630"
/note="Polynucleotide containing CG"

ORIGIN /note="Polynucleotide containing CG"

Query Match 100.0%; Score 22; DB 6; Length 22;
Best Local Similarity 100.0%; Pred. No. 0.46;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 TGAAGTGAACGTTGAGATGA 22
|||||
1 TGAAGTGAACGTTGAGATGA 22

RESULT 27
AX468499 22 bp DNA linear PAT 16-JUL-2002
LOCUS Sequence 19 from Patent WO0226209.
DEFINITION AX468499
ACCESSION AX468499
VERSION AX468499.1 GI:21901329
KEYWORDS
SOURCE synthetic construct
ORGANISM synthetic construct
REFERENCE 1
AUTHORS O'Hagan,D., Otten,G., Donnelly,J.J., Polo,J.M., Barnett,S.,
TITLE Singh,M., Ulmer,U. and Dubensky,T.W.
JOURNAL Microparticles for delivery of the heterologous nucleic acids
Patent: WO 0226209-A 19 04-APR-2002;
CHIRON CORPORATION (US)
FEATURES
source Location/Qualifiers
1.22
/organism="synthetic construct"
/mol_type="unassigned DNA"
/db_xref="taxon:32630"
/note="Artificial sequence is synthesized"

ORIGIN

Query Match 100.0%; Score 22; DB 6; Length 22;
Best Local Similarity 100.0%; Pred. No. 0.46;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 TGAAGTGAACGTTGAGATGA 22
|||||
1 TGAAGTGAACGTTGAGATGA 22

RESULT 28
AX592312 22 bp DNA linear PAT 27-JAN-2003
LOCUS Sequence 2 from Patent WO02052002.
DEFINITION AX592312
ACCESSION AX592312
VERSION AX592312.1 GI:27950414
KEYWORDS
SOURCE synthetic construct
ORGANISM synthetic construct
REFERENCE 1
AUTHORS Fearon,K.L. and Dina,D.
TITLE Immunomodulatory polynucleotides and methods of using the same
JOURNAL Patent: WO 02052002-A 2 04-JUL-2002;
Dynavax Technologies Corporation (US)
FEATURES
source Location/Qualifiers
1.22
/organism="synthetic construct"
/mol_type="unassigned DNA"
/db_xref="taxon:32630"
/note="Polynucleotide containing CG"

ORIGIN

Query Match 100.0%; Score 22; DB 6; Length 22;
Best Local Similarity 100.0%; Pred. No. 0.46;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 TGAAGTGAACGTTGAGATGA 22
|||||
1 TGAAGTGAACGTTGAGATGA 22

RESULT 29
AX592350

LOCUS AX592350 22 bp DNA linear PAT 27-JAN-2003
DEFINITION Sequence 40 from Patent WO02052002.
ACCESSION AX592350
VERSION AX592350.1 GI:27950452
KEYWORDS
SOURCE synthetic construct
ORGANISM synthetic construct
REFERENCE 1
AUTHORS Fearon, K.L. and Dina, D.
TITLE Immunomodulatory polynucleotides and methods of using the same
JOURNAL Patent: WO 02052002-A 40 04-JUL-2002;
Dynavax Technologies Corporation (US)
FEATURES
source Location/Qualifiers
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/organism="synthetic construct"
/mol_type="unassigned DNA"
/db_xref="taxon:32630"
/note="Polynucleotide containing CG"

ORIGIN
Query Match 100.0%; Score 22; DB 6; Length 22;
Best Local Similarity 100.0%; Pred. No. 0.46;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 TGAAGTGAACGTTGAGATGA 22
|||||
1 TGAAGTGAACGTTGAGATGA 22

Db 1 TGAAGTGAACGTTGAGATGA 22

RESULT 30
AX592369 22 bp DNA linear PAT 27-JAN-2003
LOCUS AX592369
DEFINITION Sequence 59 from Patent WO02052002.
ACCESSION AX592369
VERSION AX592369.1 GI:27950471
KEYWORDS
SOURCE synthetic construct
ORGANISM synthetic construct
REFERENCE 1
AUTHORS Fearon, K.L. and Dina, D.
TITLE Immunomodulatory polynucleotides and methods of using the same
JOURNAL Patent: WO 02052002-A 59 04-JUL-2002;
Dynavax Technologies Corporation (US)
FEATURES
source Location/Qualifiers
1..22
/organism="synthetic construct"
/mol_type="unassigned DNA"
/db_xref="taxon:32630"
/note="Polynucleotide containing CG"

ORIGIN
Query Match 100.0%; Score 22; DB 6; Length 22;
Best Local Similarity 100.0%; Pred. No. 0.46;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 TGAAGTGAACGTTGAGATGA 22
|||||
1 TGAAGTGAACGTTGAGATGA 22

Db 1 TGAAGTGAACGTTGAGATGA 22

RESULT 31
AX720306 22 bp DNA linear PAT 15-APR-2003
LOCUS AX720306
DEFINITION Sequence 1 from Patent WO03000232.
ACCESSION AX720306
VERSION AX720306.1 GI:29892140
KEYWORDS
SOURCE synthetic construct
ORGANISM synthetic construct
REFERENCE 1

AUTHORS Barenholz, Y., Kedar, E., Louria-Hayon, Y., Joseph, A., Raz, E. and Takabayashi, K.
TITLE Method for preparation of vesicles loaded with immunostimulatory oligodeoxynucleotides
JOURNAL Patent: WO 03000232-A 1 03-JAN-2003;
Yissum Research Development Company of the Hebrew Univ of Jerusalem (IL); The Regents of the University of California (US)
FEATURES
source Location/Qualifiers
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/organism="synthetic construct"
/mol_type="unassigned DNA"
/db_xref="taxon:32630"

ORIGIN
Query Match 100.0%; Score 22; DB 6; Length 22;
Best Local Similarity 100.0%; Pred. No. 0.46;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 TGAAGTGAACGTTGAGATGA 22
|||||
1 TGAAGTGAACGTTGAGATGA 22

Db 1 TGAAGTGAACGTTGAGATGA 22

RESULT 32
BD009235 22 bp DNA linear PAT 31-JAN-2002
LOCUS BD009235
DEFINITION Immunostimulatory polynucleotide/immunomodulatory molecule conjugates.
ACCESSION BD009235
VERSION BD009235.1 GI:18637608
KEYWORDS JP 2001503254-A/34.
SOURCE synthetic construct
ORGANISM synthetic construct
REFERENCE 1 (bases 1 to 22)
AUTHORS Carson, D.A., Raz, E. and Roman, M.
TITLE Immunostimulatory polynucleotide/immunomodulatory molecule
JOURNAL Patent: JP 2001503254-A 34 13-MAR-2001;
THE REGENTS OF THE UNIVERSITY OF CALIFORNIA
COMMENT OS Artificial Sequence
PN JP 2001503254-A/34
PD 13-MAR-2001
PF 09-OCT-1997 JP 1998518649
PR 11-OCT-1996 US 60/028118
PI DENNIS A CARSON EVAL. RAZ, MARK ROMAN
PC A61K39/00, A61K39/385, A61K39/39
CC
FT Key
FT source Location/Qualifiers
1..22
/organism="Artificial Sequence".

FEATURES
source Location/Qualifiers
1..22
/organism="synthetic construct"
/mol_type="genomic DNA"
/db_xref="taxon:32630"

ORIGIN
Query Match 100.0%; Score 22; DB 6; Length 22;
Best Local Similarity 100.0%; Pred. No. 0.46;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 TGAAGTGAACGTTGAGATGA 22
|||||
1 TGAAGTGAACGTTGAGATGA 22

Db 1 TGAAGTGAACGTTGAGATGA 22

RESULT 33
AX250707 22 bp DNA linear PAT 05-OCT-2001
LOCUS AX250707
DEFINITION Sequence 7 from Patent WO0168078.
ACCESSION AX250707
VERSION AX250707.1 GI:15984445
KEYWORDS

SOURCE synthetic construct
ORGANISM synthetic construct
REFERENCE 1
ARTIFICIAL SEQUENCES.
AUTHORS van Nest, G.
TITLE Methods of suppressing hepatitis virus infection using immunomodulatory polynucleotide sequences
JOURNAL Patent: WO 0168078-A 7 20-SEP-2001;
Dynavax Technologies Corporation (US)
FEATURES
source 1..22
/organism="synthetic construct"
/mol_type="unassigned DNA"
/db_xref="taxon:32630"
/note="B is 5-bromocytosine"
ORIGIN
Query Match 96.4%; Score 21.2; DB 6; Length 22;
Best Local Similarity 95.5%; Pred. No. 1.3;
Matches 21; Conservative 1; Mismatches 0; Indels 0; Gaps 0;
QY 1 TGAAGTGAACGTTGAGATGA 22
|||||
1 TGAAGTGAACGTTGAGATGA 22
Db 1 TGAAGTGAACGTTGAGATGA 22
RESULT 34
BD233630 22 bp DNA linear PAT 17-JUL-2003
LOCUS Immunostimulatory oligonucleotides, compositions thereof and
DEFINITION methods of use thereof.
ACCESSION BD233630
VERSION BD233630.1 GI:33043400
KEYWORDS JP 2002517156-A/15.
SOURCE unidentified
ORGANISM unidentified
REFERENCE 1 (bases 1 to 22)
AUTHORS Schwartz, D., Roman, M., Dina, D. and Raz, E.
TITLE Immunostimulatory oligonucleotides, compositions thereof and methods of use thereof
JOURNAL Patent: JP 2002517156-A 15 11-JUN-2002;
DYNAXX TECHNOLOGIES CORP
COMMENT
OS Unidentified
PN JP 2002517156-A/15
PD 11-JUN-2002
PR 05-JUN-1998 JP 199502884
PI 06-JUN-1997 US 60/048793
PC DAVID SCHWARTZ, MARK ROMAN, DINO DINA, EYAL RAZ
C12N15/09, A61K31/7088, A61K31/7115, A61P37/02, A61P43/00, C12Q1/68, PC
C12N15/00
CC Strandedness: Single;
CC Topology: Linear;
CC 5-bromocytosine
FH Key modified_base 11.
FT location/Qualifiers
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source 1..22
/organism="unidentified"
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/db_xref="taxon:32644"
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Query Match 95.5%; Score 21; DB 6; Length 22;
Best Local Similarity 95.5%; Pred. No. 1.7;
Matches 21; Conservative 0; Mismatches 1; Indels 0; Gaps 0;
QY 1 TGAAGTGAACGTTGAGATGA 22
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1 TGAAGTGAACGTTGAGATGA 22
Db 1 TGAAGTGAACGTTGAGATGA 22

RESULT 35
AR352586 22 bp DNA linear PAT 17-AUG-2003
LOCUS AR352586
DEFINITION Sequence 15 from patent US 6589940.
ACCESSION AR352586
VERSION AR352586.1 GI:33757837
KEYWORDS
SOURCE Unknown.
ORGANISM Unknown.
REFERENCE 1 (bases 1 to 22)
AUTHORS Raz, E., Roman, M. and Dina, D.
TITLE Immunostimulatory oligonucleotides, compositions thereof and methods of use thereof
JOURNAL Patent: US 6589940-A 15 08-JUN-2003;
Dynavax Technologies Corporation (US)
FEATURES
source 1..22
/organism="unknown"
/mol_type="genomic DNA"
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Db 1 TGAAGTGAACGTTGAGATGA 22
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AX083681 22 bp DNA linear PAT 28-FEB-2001
LOCUS AX083681
DEFINITION Sequence 7 from Patent WO0112223.
ACCESSION AX083681
VERSION AX083681.1 GI:13185413
KEYWORDS
SOURCE synthetic construct
ORGANISM synthetic construct
REFERENCE 1
AUTHORS van Nest, G.
TITLE Methods of modulating an immune response using immunostimulatory s
JOURNAL sequences and compositions for use therein
Patent: WO 0112223-A 7 22-FEB-2001;
Dynavax Technologies Corporation (US)
FEATURES
source 1..22
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/note="5-bromocytosine"
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Best Local Similarity 95.5%; Pred. No. 1.7;
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RESULT 37
AX148642 22 bp DNA linear PAT 08-JUN-2001
LOCUS AX148642
DEFINITION Sequence 7 from Patent WO0135991.
ACCESSION AX148642
VERSION AX148642.1 GI:14347260
KEYWORDS
SOURCE synthetic construct

ORGANISM synthetic construct
artificial sequences.

REFERENCE 1
AUTHORS Tuck,S. and van Nest,G.
TITLE Immunomodulatory compositions containing an immunostimulatory
sequence linked to antigen and methods of use thereof
JOURNAL Patent: WO 0135991-A 7 25-MAY-2001
FEATURES Dynavax Technologies Corporation (US)
source Location/Qualifiers
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RESULT 38
AX252297 22 bp DNA linear PAT 05-OCT-2001
LOCUS AX252297
DEFINITION Sequence 7 from Patent WO0168117.
ACCESSION AX252297
VERSION AX252297.1 GI:15985638
KEYWORDS
SOURCE synthetic construct
ORGANISM synthetic construct
REFERENCE 1
AUTHORS van Nest,G.
TITLE Methods of reducing papillomavirus infection using immunomodulatory
polynucleotide sequences
JOURNAL Patent: WO 0168117-A 7 20-SEP-2001;
FEATURES Dynavax Technologies Corporation (US)
source Location/Qualifiers
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Db 1 TGAAGTGAACGTTGAGATGA 22

RESULT 39
AX252515 22 bp DNA linear PAT 05-OCT-2001
LOCUS AX252515
DEFINITION Sequence 7 from Patent WO0168103.
ACCESSION AX252515
VERSION AX252515.1 GI:15985786
KEYWORDS
SOURCE synthetic construct
ORGANISM synthetic construct
REFERENCE 1
AUTHORS van Nest,G.
TITLE Methods of ameliorating symptoms of herpes infection using
immunomodulatory polynucleotide sequences
JOURNAL Patent: WO 0168103-A 7 20-SEP-2001;
FEATURES Dynavax Technologies Corporation (US)
source Location/Qualifiers
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1 TGAAGTGAACGTTGAGATGA 22

Db 1 TGAAGTGAACGTTGAGATGA 22

REFERENCE 1
AUTHORS van Nest,G.
TITLE Methods of ameliorating symptoms of herpes infection using
immunomodulatory polynucleotide sequences
JOURNAL Patent: WO 0168103-A 7 20-SEP-2001;
FEATURES Dynavax Technologies Corporation (US)
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Db 1 TGAAGTGAACGTTGAGATGA 22

RESULT 40
AX252526 22 bp DNA linear PAT 05-OCT-2001
LOCUS AX252526
DEFINITION Sequence 7 from Patent WO0168144.
ACCESSION AX252526
VERSION AX252526.1 GI:15985797
KEYWORDS
SOURCE synthetic construct
ORGANISM synthetic construct
REFERENCE 1
AUTHORS van Nest,G. and Tuck,S.
TITLE Biodegradable immunomodulatory formulations and methods for use
thereof
JOURNAL Patent: WO 0168144-A 7 20-SEP-2001;
FEATURES Dynavax Technologies Corporation (US)
source Location/Qualifiers
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/note="Polynucleotide containing (5-bromocytosine) G"
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Matches 21; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

QY 1 TGAAGTGAACGTTGAGATGA 22
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Search completed: October 30, 2004, 19:00:37
Job time : 1461 secs

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GenCore version 5.1.6
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OM nucleic - nucleic search, using sw model

Run on: October 30, 2004, 17:31:47 ; Search time 223 Seconds
(without alignments)
517.880 Million cell updates/sec

Title: US-09-802-376-1
Perfect score: 22
Sequence: 1 tgcactgacgtcgcagatga 22

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Gapop 10.0 , Gapext 1.0

Searched: 413486 seqs, 2624710521 residues
Total number of hits satisfying chosen parameters: 4343386

Minimum DB seq length: 0
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Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 1000 summaries

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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

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4	22	100.0	22	AAV80102	Aav80102 Immunomod
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24	22	100.0	22	AA41573	Aa41573 Immunost
25	22	100.0	22	AA51464	Aa51464 Immunost
26	22	100.0	22	AB078627	Ab078627 ISS enhan
27	22	100.0	22	AA515592	Aa515592 Immunost
28	22	100.0	22	ABA03833	Ab03833 Immunost
29	22	100.0	22	ABA03844	Ab03844 Immunost
30	22	100.0	22	AA516337	Aa516337 ISS poly
31	22	100.0	22	AA24885	Aa24885 Immunost
32	22	100.0	22	AA21877	Aa21877 Immunost
33	22	100.0	22	AB075259	Ab075259 ISS immu
34	22	100.0	22	AB075153	Ab075153 ISS immu
35	22	100.0	22	AB075206	Ab075206 ISS immu
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42	22	100.0	22	ADB88931	Adb88931 Chimeric
43	22	100.0	22	ADB88799	Adb88799 Chimeric
44	22	100.0	22	ADB88821	Adb88821 Chimeric
45	22	100.0	22	ADB88876	Adb88876 Chimeric
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47	22	100.0	22	AA51531	Aa51531 CTL recog
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50	22	100.0	22	ADK67571	Adk67571 Immunost
51	22	100.0	22	ADK67577	Adk67577 Immunost
52	22	100.0	22	ADJ64032	Adj64032 Immunost
53	22	100.0	22	ADJ64032	Adj64032 Immunost
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55	22	100.0	22	ADM06869	Adm06869 Immunost
56	22	100.0	22	ADM06870	Adm06870 Immunost
57	22	100.0	22	ADP13112	Adp13112 Primer of
58	22	100.0	22	ADP83759	Adp83759 Immunost
59	22	100.0	22	ADP86132	Adp86132 CPG immu
60	22	100.0	22	ADP21879	Adp21879 Immunost
61	22	100.0	22	ADM06863	Adm06863 Immunost
62	22	100.0	22	ADP86153	Adp86153 CPG immu
63	22	100.0	22	ADP86133	Adp86133 CPG immu
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65	22	100.0	22	AAV77046	Aav77046 Immunost
66	22	100.0	22	ADK67578	Adk67578 Immunost
67	22	100.0	22	ADJ64045	Adj64045 Oligonuc
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70	22	100.0	22	AAH41579	Aah41579 Immunost
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72	22	100.0	22	ABA03839	Ab03839 Immunost
73	22	100.0	22	ABA03850	Ab03850 Immunost
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75	22	100.0	22	ABQ75207	Abq75207 ISS immu
76	22	100.0	22	ABQ75203	Abq75203 ISS immu
77	22	100.0	22	ABQ75196	Abq75196 ISS immu
78	22	100.0	22	ABQ75213	Abq75213 ISS immu
79	22	100.0	22	AA516354	Aa516354 ISS poly
80	22	100.0	22	ABA03862	Ab03862 Immunost
81	22	100.0	22	ADB88873	Adb88873 Chimeric
82	22	100.0	22	ADB88866	Adb88866 Chimeric
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85	22	100.0	22	ADB88937	Adb88937 Chimeric
86	22	100.0	22	ADB88938	Adb88938 Chimeric
87	22	100.0	22	ADF09181	Adf09181 Immunomod
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89	22	100.0	22	AAV80099	Aav80099 Immunomod
90	22	100.0	22	AAV80101	Aav80101 Immunomod
91	22	100.0	22	AAV80105	Aav80105 Oligo use
92	22	100.0	22	AAV80096	Aav80096 Immunomod
93	22	100.0	22	AAH4109	Aah4109 5' termin
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98	20.4	92.7	22	4	AA43341	Aa43341	Immunomod	171	19.4	88.2	22	10	ADF09178	AdF09178	Immunomod
99	20.4	92.7	22	4	AA43342	Aa43342	Immunomod	172	19.4	88.2	22	12	AD179433	Ad179433	Immunost
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105	20.4	92.7	22	4	AAEF7041	AaEF7041	Immunost	178	18.8	85.5	22	2	AAV80104	AaV80104	Oligo use
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110	20.4	92.7	22	5	AA514667	Aa514667	Immunost	183	18.8	85.5	22	3	AA144469	Aa144469	Mutant im
111	20.4	92.7	22	6	AA515593	Aa515593	Immunost	184	18.8	85.5	22	3	AA144468	Aa144468	Inactive
112	20.4	92.7	22	6	ABA03836	AbA03836	Immunost	185	18.8	85.5	22	3	AA90459	Aa90459	CPG adjuv
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121	20.4	92.7	22	6	ABV73191	AbV73191	Nucleotid	194	18.8	85.5	22	4	AAH76000	AaH76000	Control o
122	20.4	92.7	22	6	AA516351	Aa516351	ISS polyn	195	18.8	85.5	22	4	AAH731345	AaH731345	Immunost
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126	20.4	92.7	22	10	ADF09167	AdF09167	Immunomod	199	18.8	85.5	22	5	AAH41672	AaH41672	Non-Immun
127	20.4	92.7	22	10	ADF09172	AdF09172	Immunomod	200	18.8	85.5	22	6	AA515595	Aa515595	Immunost
128	20.4	92.7	22	10	ADF09171	AdF09171	Immunomod	201	18.8	85.5	22	6	ABA03841	AbA03841	Control p
129	20.4	92.7	22	12	ADK67572	AdK67572	Immunost	202	18.8	85.5	22	6	ABA03842	AbA03842	Control p
130	20.4	92.7	22	12	ADK67574	AdK67574	Immunost	203	18.8	85.5	22	6	ABA03852	AbA03852	Control n
131	20.4	92.7	22	12	ADK67576	AdK67576	Immunost	204	18.8	85.5	22	6	ABA03855	AbA03855	Control n
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133	20.4	92.7	22	12	ADJ64031	AdJ64031	Immunost	206	18.8	85.5	22	6	AA516347	Aa516347	Non-ISS p
134	20.4	92.7	22	12	ADJ64035	AdJ64035	Immunost	207	18.8	85.5	22	6	AA516347	Aa516347	Non-ISS p
135	20.4	92.7	22	12	ADJ64036	AdJ64036	Immunost	208	18.8	85.5	22	6	AAH24893	AaH24893	Mutated o
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147	20	90.9	22	6	ABA03840	AbA03840	Immunost	220	18.8	85.5	22	9	ADB88885	AdB88885	Chimeric
148	20	90.9	22	6	ABA03851	AbA03851	Immunost	221	18.8	85.5	22	9	ADB88886	AdB88886	Chimeric
149	20	90.9	22	6	AA516344	Aa516344	ISS polyn	222	18.8	85.5	22	9	ADB88932	AdB88932	Chimeric
150	20	90.9	22	6	ABQ75214	AbQ75214	ISS immun	223	18.8	85.5	22	9	ADB88827	AdB88827	Chimeric
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155	20	90.9	22	9	ADB88874	AdB88874	Chimeric	228	18.8	85.5	22	10	ADK67596	AdK67596	Oligonuc
156	20	90.9	22	10	ADF09182	AdF09182	Immunomod	229	18.8	85.5	22	12	ADJ64033	AdJ64033	Immunost
157	20	90.9	22	12	ADJ64035	AdJ64035	Immunost	230	18.8	85.5	22	12	ADJ64038	AdJ64038	Immunost
158	19.6	89.1	22	12	AAEF7045	AaEF7045	Immunost	231	18.8	85.5	22	12	ADP13113	AdP13113	Primer of
159	19.6	89.1	22	12	ADJ64042	AaJ64042	Oligonuc	232	18.8	85.5	22	12	ADO55319	AdO55319	Immunost
160	19.4	88.2	22	3	AA255877	Aa255877	Immunomod	233	18.8	85.5	22	12	ADO55223	AdO55223	Immunost
161	19.4	88.2	22	4	AAH75997	AaH75997	Immunomod	234	18.8	85.5	22	12	ADO55466	AdO55466	Immunost
162	19.4	88.2	22	5	AAH41578	AaH41578	Immunost	235	18.8	85.5	22	12	ADO55352	AdO55352	Immunost
163	19.4	88.2	22	5	AA514669	Aa514669	Immunost	236	18.8	85.5	22	12	ADO55271	AdO55271	Immunost
164	19.4	88.2	22	6	ABA03838	AbA03838	Immunost	237	18.8	85.5	22	12	ADO55465	AdO55465	Immunost
165	19.4	88.2	22	6	ABA03849	AbA03849	Immunost	238	18.8	85.5	22	12	ADO55255	AdO55255	Immunost
166	19.4	88.2	22	6	AA516342	Aa516342	ISS polyn	239	18	81.8	18	6	ABQ75210	AbQ75210	ISS immun
167	19.4	88.2	22	6	ABQ75205	AbQ75205	ISS immun	240	18	81.8	18	9	ADB88880	AdB88880	Chimeric

241	17.8	80.9	22	6	ABQ75209	Abq75209	ISS	immun	314	16.2	73.6	22	12	AD055305	Ad055305	Immune	mo
242	17.8	80.9	22	6	ABQ75199	Abq75199	ISS	immun	315	16.2	73.6	22	12	AD055403	Ad055403	Immune	mo
243	17.8	80.9	22	6	ABQ75208	Abq75208	ISS	immun	316	16.2	73.6	22	12	AD055304	Ad055304	Immune	mo
244	17.8	80.9	22	6	ABQ75198	Abq75198	ISS	immun	317	16.2	73.6	22	12	AD055307	Ad055307	Immune	mo
245	17.8	80.9	22	9	ADB88935	Adb88935	Chimeric		318	16.2	73.6	22	12	AD055406	Ad055406	Immune	mo
246	17.8	80.9	22	9	ADB88934	Adb88934	Chimeric		319	16.2	73.6	22	12	AD055292	Ad055292	Immune	mo
247	17.8	80.9	22	9	ADB88878	Adb88878	Chimeric		320	16.2	73.6	22	12	AD055311	Ad055311	Immune	mo
248	17.8	80.9	22	9	ADB88868	Adb88868	Chimeric		321	16.2	73.6	22	12	AD055417	Ad055417	Immune	mo
249	17.8	80.9	22	9	ADB88869	Adb88869	Chimeric		322	16.2	73.6	22	12	AD055293	Ad055293	Immune	mo
250	17.8	80.9	22	9	ADB88879	Adb88879	Chimeric		323	16.2	73.6	22	12	AD055402	Ad055402	Immune	mo
251	17.8	80.9	22	12	AD055401	Ad055401	Immune	mo	324	16.2	73.6	22	12	AD055421	Ad055421	Immune	mo
252	17.8	80.9	22	12	AD055288	Ad055288	Immune	mo	325	16.2	73.6	22	12	AD055299	Ad055299	Immune	mo
253	17.8	80.9	22	12	AD055295	Ad055295	Immune	mo	326	16	72.7	20	6	AD24905	Ad24905	Double-st	
254	17.8	80.9	22	12	AD055303	Ad055303	Immune	mo	327	15.8	71.8	20	6	AD24886	Ad24886	Mutated	O
255	17.8	80.9	22	12	AD055405	Ad055405	Immune	mo	328	15.8	71.8	100	8	ACD78847	Acdd78847	E. coli K	
256	17.8	80.9	22	12	AD055289	Ad055289	Immune	mo	329	15.6	70.9	22	2	AAV55794	Aav55794	Immunost	
257	17.8	80.9	22	12	AD055291	Ad055291	Immune	mo	330	15.6	70.9	22	2	AAV55792	Aav55792	Immunost	
258	17.2	78.2	22	2	AAV80110	Aav80110	Oligo use		331	15.6	70.9	22	4	AAH43339	Aah43339	Immunomod	
259	17.2	78.2	22	2	AAV80107	Aav80107	Oligo use		332	15.6	70.9	22	6	ABQ24897	Abq24897	Control-O	
260	17.2	78.2	22	2	AAV55791	Aav55791	Immunost		333	15.6	70.9	22	6	ABQ25161	Abq25161	ISS	immun
261	17.2	78.2	22	3	AAH90460	Aaah90460	CPG adjuv		334	15.6	70.9	22	9	ADB88829	Adb88829	Chimeric	
262	17.2	78.2	22	3	AAH20405	Aah20405	CPG motif		335	15.6	70.9	22	12	AD055276	Ad055276	Immune	mo
263	17.2	78.2	22	4	AAH43346	Aah43346	Immunomod		336	15.6	70.9	22	12	AD055343	Ad055343	Immune	mo
264	17.2	78.2	22	4	AAH43346	Aah43346	Immunomod		337	15.6	70.9	22	12	AD055258	Ad055258	Immune	mo
265	17.2	78.2	22	4	AAH43346	Aah43346	Immunomod		338	15.6	70.9	22	12	AD055331	Ad055331	Immune	mo
266	17.2	78.2	22	6	ABQ24898	Abq24898	Control-O		339	15.6	70.9	22	12	AD055329	Ad055329	Immune	mo
267	17.2	78.2	22	6	ABQ75172	Abq75172	ISS	immun	340	15.6	70.9	22	12	AD055329	Ad055329	Immune	mo
268	17.2	78.2	22	6	ABQ75167	Abq75167	ISS	immun	341	15.6	70.9	22	12	AD055339	Ad055339	Immune	mo
269	17.2	78.2	22	6	ABQ75160	Abq75160	ISS	immun	342	15.6	70.9	22	12	AD055391	Ad055391	Immune	mo
270	17.2	78.2	22	6	AAH44506	Aah44506	CPG motif		343	15.6	70.9	22	12	AD055435	Ad055435	Immune	mo
271	17.2	78.2	22	9	ADB88828	Adb88828	Chimeric		344	15.6	70.9	22	12	AD055283	Ad055283	Immune	mo
272	17.2	78.2	22	9	ADB88840	Adb88840	Chimeric		345	15.6	70.9	22	12	AD055439	Ad055439	Immune	mo
273	17.2	78.2	22	9	ADB88835	Adb88835	Chimeric		346	15.6	70.9	22	12	AD055243	Ad055243	Immune	mo
274	17.2	78.2	22	10	ADP09179	Adp09179	Immunomod		347	15.6	70.9	22	12	AD055387	Ad055387	Immune	mo
275	17.2	78.2	22	10	ADP09175	Adp09175	Immunomod		348	15.6	70.9	22	12	AD055397	Ad055397	Immune	mo
276	17.2	78.2	22	12	ADP64043	Adp64043	Oligonucle		349	15.6	70.9	22	12	AD055265	Ad055265	Immune	mo
277	17.2	78.2	22	12	ADP64039	Adp64039	Immunolab		350	15.6	70.9	22	12	AD055324	Ad055324	Immune	mo
278	17.2	78.2	22	12	AD055323	Ad055323	Immune	mo	351	15.6	70.9	22	12	AD055357	Ad055357	Immune	mo
279	17.2	78.2	22	12	AD055257	Ad055257	Immune	mo	352	15.6	70.9	22	12	AD055267	Ad055267	Immune	mo
280	17.2	78.2	22	12	AD055321	Ad055321	Immune	mo	353	15.6	70.9	22	12	AD055281	Ad055281	Immune	mo
281	17.2	78.2	22	12	AD055239	Ad055239	Immune	mo	354	15.6	70.9	22	12	AD055353	Ad055353	Immune	mo
282	17.2	78.2	22	12	AD055389	Ad055389	Immune	mo	355	15.6	70.9	22	12	AD055375	Ad055375	Immune	mo
283	17.2	78.2	22	12	AD055259	Ad055259	Immune	mo	356	15.6	70.9	22	12	AD055393	Ad055393	Immune	mo
284	17.2	78.2	22	12	AD055433	Ad055433	Immune	mo	357	15.6	70.9	22	12	AD055434	Ad055434	Immune	mo
285	17.2	78.2	22	12	AD055272	Ad055272	Immune	mo	358	15.6	70.9	22	12	AD055441	Ad055441	Immune	mo
286	17.2	78.2	22	12	AD055437	Ad055437	Immune	mo	359	15.6	70.9	22	12	AD055337	Ad055337	Immune	mo
287	17.2	78.2	22	12	AD055263	Ad055263	Immune	mo	360	15.6	70.9	22	12	AD055274	Ad055274	Immune	mo
288	17.2	78.2	22	12	AD055273	Ad055273	Immune	mo	361	15.6	70.9	22	12	AD055322	Ad055322	Immune	mo
289	17.2	78.2	22	12	AD055320	Ad055320	Immune	mo	362	15.6	70.9	22	12	AD055328	Ad055328	Immune	mo
290	17.2	78.2	22	12	AD055327	Ad055327	Immune	mo	363	15.6	70.9	22	12	AD055381	Ad055381	Immune	mo
291	17.2	78.2	22	12	AD055256	Ad055256	Immune	mo	364	15.6	70.9	22	12	AD055438	Ad055438	Immune	mo
292	17.2	78.2	22	12	AD055279	Ad055279	Immune	mo	365	15.6	70.9	22	12	AD055445	Ad055445	Immune	mo
293	17.2	78.2	22	12	AD055335	Ad055335	Immune	mo	366	15.6	70.9	22	12	AD055264	Ad055264	Immune	mo
294	17.2	78.2	22	12	AD055369	Ad055369	Immune	mo	367	15.6	70.9	22	12	AD055277	Ad055277	Immune	mo
295	17.2	78.2	22	12	AD055385	Ad055385	Immune	mo	368	15.6	70.9	22	12	AD055386	Ad055386	Immune	mo
296	17.2	78.2	22	12	AD055373	Ad055373	Immune	mo	369	15.6	70.9	22	12	AD055370	Ad055370	Immune	mo
297	17.2	78.2	22	12	AD055275	Ad055275	Immune	mo	370	15.6	70.9	22	12	AD055371	Ad055371	Immune	mo
298	17	77.3	22	6	ABQ75212	Abq75212	ISS	immun	371	15.6	70.9	22	12	AD055449	Ad055449	Immune	mo
299	17	77.3	22	6	ABQ75163	Abq75163	ISS	immun	372	15.6	70.9	22	12	AD055241	Ad055241	Immune	mo
300	17	77.3	22	6	ABQ75211	Abq75211	ISS	immun	373	15.6	70.9	22	12	AD055247	Ad055247	Immune	mo
301	17	77.3	22	9	ADB88881	Adb88881	Chimeric		374	15.6	70.9	22	12	AD055453	Ad055453	Immune	mo
302	17	77.3	22	9	ADB88831	Adb88831	Chimeric		375	15.6	70.9	22	12	AD055240	Ad055240	Immune	mo
303	17	77.3	22	9	ADB88882	Adb88882	Chimeric		376	15.6	70.9	22	12	AD055260	Ad055260	Immune	mo
304	16.4	74.5	18	6	ABQ75166	Abq75166	ISS	immun	377	15.6	70.9	22	12	AD055280	Ad055280	Immune	mo
305	16.4	74.5	18	6	ABQ75219	Abq75219	ISS	immun	378	15.6	70.9	22	12	AD055325	Ad055325	Immune	mo
306	16.4	74.5	18	9	ADB88889	Adb88889	Chimeric		379	15.6	70.9	22	12	AD055377	Ad055377	Immune	mo
307	16.4	74.5	18	9	ADB88834	Adb88834	Chimeric		380	15.6	70.9	22	12	AD055374	Ad055374	Immune	mo
308	16.2	73.6	22	12	AD055290	Ad055290	Immune	mo	381	15.6	70.9	22	12	AD055336	Ad055336	Immune	mo
309	16.2	73.6	22	12	AD055297	Ad055297	Immune	mo	382	15.6	70.9	22	12	AD055390	Ad055390	Immune	mo
310	16.2	73.6	22	12	AD055407	Ad055407	Immune	mo	383	15.4	70.0	18	6	ABQ75180	Abq75180	ISS	immun
311	16.2	73.6	22	12	AD055409	Ad055409	Immune	mo	384	15.4	70.0	18	9	ADB88848	Adb88848	Chimeric	
312	16.2	73.6	22	12	AD055296	Ad055296	Immune	mo	385	15.4	70.0	21	2	AAV80108	Aav80108	Oligo use	
313	16.2	73.6	22	12	AD055413	Ad055413	Immune	mo	386	15.4	70.0	21	10	ADP09176	Adp09176	Immunomod	

387	15.4	70.0	21	12	ADJ64040	AdJ64040	Immunoist	460	14	63.6	22	12	AD055262	AD055262	Immune mo
388	15.4	70.0	23	10	AAV80109	AAV80109	Oligo use	461	14	63.6	22	12	AD055340	AD055340	Immune mo
389	15.4	70.0	23	10	ADV09177	ADV09177	Immunoiod	462	14	63.6	22	12	AD055379	AD055379	Immune mo
390	15.4	70.0	23	12	ADJ64041	AdJ64041	Immunoist	463	14	63.6	22	12	AD055399	AD055399	Immune mo
391	15	68.2	21	6	ABO75182	AbO75182	ISS immun	464	14	63.6	22	12	AD055455	AD055455	Immune mo
392	15	68.2	21	12	ADK67599	AdK67599	Immunoist	465	14	63.6	22	12	AD055266	AD055266	Immune mo
393	15	68.2	23	3	AAV80098	AAV80098	Immunoiod	466	14	63.6	22	12	AD055344	AD055344	Immune mo
394	15	68.2	23	3	AAA38067	Aaa38067	Immunoist	467	14	63.6	22	12	AD055347	AD055347	Immune mo
395	15	68.2	23	4	AAH75994	AaH75994	Immunoiod	468	14	63.6	22	12	AD055354	AD055354	Immune mo
396	15	68.2	23	4	AAH77042	AaH77042	Immunoist	469	14	63.6	22	12	AD055454	AD055454	Immune mo
397	15	68.2	23	5	AAH41575	AaH41575	Immunoist	470	14	63.6	22	12	AD055330	AD055330	Immune mo
398	15	68.2	23	5	AAH41575	AaH41575	Immunoist	471	14	63.6	22	12	AD055395	AD055395	Immune mo
399	15	68.2	23	6	ABA03855	AbA03855	Immunoist	472	14	63.6	22	12	AD055251	AD055251	Immune mo
400	15	68.2	23	6	ABA03846	AbA03846	Immunoist	473	14	63.6	22	12	AD055358	AD055358	Immune mo
401	15	68.2	23	6	AAH16339	AaH16339	ISS polyn	474	14	63.6	22	12	AD055359	AD055359	Immune mo
402	15	68.2	23	6	AAH16330	AaH16330	ISS polyn	475	14	63.6	22	12	AD055372	AD055372	Immune mo
403	15	68.2	23	6	ABA03858	AbA03858	Immunoist	476	14	63.6	22	12	AD055394	AD055394	Immune mo
404	15	68.2	23	10	ADP09170	AdP09170	Immunoiod	477	14	63.6	22	12	AD055398	AD055398	Immune mo
405	15	68.2	23	12	ADK67573	AdK67573	Immunoist	478	14	63.6	22	12	AD055461	AD055461	Immune mo
406	15	68.2	23	12	ADJ64034	AdJ64034	Immunoist	479	14	63.6	22	12	AD055284	AD055284	Immune mo
407	15	68.2	23	12	ADJ79430	AdJ79430	Immunoist	480	14	63.6	22	12	AD055355	AD055355	Immune mo
408	15	68.2	23	12	ADW06865	AdW06865	Immunoist	481	14	63.6	22	12	AD055269	AD055269	Immune mo
409	14.8	67.3	18	6	ABO75165	AbO75165	ISS immun	482	14	63.6	22	12	AD055440	AD055440	Immune mo
410	14.8	67.3	18	9	ADB88833	AdB88833	Chimeric	483	14	63.6	22	12	AD055435	AD055435	Immune mo
411	14.6	66.4	22	12	AD055315	AdO55315	Immune mo	484	14	63.6	22	12	AD055442	AD055442	Immune mo
412	14.6	66.4	22	12	AD055314	AdO55314	Immune mo	485	14	63.6	22	12	AD055446	AD055446	Immune mo
413	14.6	66.4	22	12	AD055294	AdO55294	Immune mo	486	14	63.6	22	12	AD055326	AD055326	Immune mo
414	14.6	66.4	22	12	AD055313	AdO55313	Immune mo	487	14	63.6	22	12	AD055345	AD055345	Immune mo
415	14.6	66.4	22	12	AD055422	AdO55422	Immune mo	488	14	63.6	22	12	AD055365	AD055365	Immune mo
416	14.6	66.4	22	12	AD055429	AdO55429	Immune mo	489	14	63.6	22	12	AD055388	AD055388	Immune mo
417	14.6	66.4	22	12	AD055306	AdO55306	Immune mo	490	14	63.6	22	12	AD055248	AD055248	Immune mo
418	14.6	66.4	22	12	AD055308	AdO55308	Immune mo	491	14	63.6	22	12	AD055443	AD055443	Immune mo
419	14.6	66.4	22	12	AD055309	AdO55309	Immune mo	492	14	63.6	22	12	AD055451	AD055451	Immune mo
420	14.6	66.4	22	12	AD055308	AdO55308	Immune mo	493	14	63.6	22	12	AD055249	AD055249	Immune mo
421	14.6	66.4	22	12	AD055419	AdO55419	Immune mo	494	14	63.6	22	12	AD055376	AD055376	Immune mo
422	14.6	66.4	22	12	AD055301	AdO55301	Immune mo	495	14	63.6	22	12	AD055378	AD055378	Immune mo
423	14.6	66.4	22	12	AD055404	AdO55404	Immune mo	496	14	63.6	22	12	AD055242	AD055242	Immune mo
424	14.6	66.4	22	12	AD055410	AdO55410	Immune mo	497	14	63.6	22	12	AD055268	AD055268	Immune mo
425	14.6	66.4	22	12	AD055418	AdO55418	Immune mo	498	14	63.6	22	12	AD055457	AD055457	Immune mo
426	14.6	66.4	22	12	AD055298	AdO55298	Immune mo	499	14	63.6	22	12	AD055278	AD055278	Immune mo
427	14.6	66.4	22	12	AD055300	AdO55300	Immune mo	500	14	63.6	22	12	AD055332	AD055332	Immune mo
428	14.6	66.4	22	12	AD055312	AdO55312	Immune mo	501	14	63.6	22	12	AD055392	AD055392	Immune mo
429	14.6	66.4	22	12	AD055411	AdO55411	Immune mo	502	14	63.6	22	12	AD055450	AD055450	Immune mo
430	14.6	66.4	22	12	AD055415	AdO55415	Immune mo	503	14	63.6	25	9	ACT42667	ACT42667	Immune mo
431	14.6	66.4	22	12	AD055423	AdO55423	Immune mo	504	14	63.6	50	6	ABE20167	ABE20167	Human Leu
432	14.6	66.4	22	12	AD055425	AdO55425	Immune mo	505	14	63.6	50	10	ADG33421	ADG33421	Human DNA
433	14.6	66.4	25	9	ACT04460	AcI04460	Human m/c	506	14	63.6	65	6	ABN53383	ABN53383	Mouse SP1
434	14.6	66.4	25	9	ACT05096	AcI05096	Human m/c	507	14	63.6	77	2	AAH88529	AAH88529	Secretory
435	14.6	66.4	65	6	ABN53180	AdN53180	Mouse sp1	508	14	63.6	90	12	ACH91017	ACH91017	Human gen
436	14.2	64.5	24	8	ABE21886	AbE21886	H. v1resc	509	14	63.6	95	2	AAH58006	AAH58006	F-selecci
437	14.2	64.5	51	4	AAH32632	AaH32632	Human SNP	510	14	63.6	95	9	ADA21988	ADA21988	HGF aptam
438	14	63.6	19	6	ABO75170	AbO75170	ISS immun	511	13.8	62.7	25	9	ACT12577	ACT12577	Human m/c
439	14	63.6	19	6	ABO75174	AbO75174	ISS immun	512	13.8	62.7	25	9	ACT112026	ACT112026	Human m/c
440	14	63.6	19	6	ABO75175	AbO75175	ISS immun	513	13.8	62.7	78	2	AAH1568	AAH1568	Human b1a
441	14	63.6	19	9	ADB88843	AdB88843	Chimeric	514	13.8	61.8	25	9	ACT142037	ACT142037	Human m/c
442	14	63.6	19	9	ADB88838	AdB88838	Chimeric	515	13.6	61.8	29	4	AAH49341	AAH49341	C. glutam
443	14	63.6	19	9	ADB88842	AdB88842	Chimeric	516	13.6	61.8	33	6	ABV77651	ABV77651	Human AN1
444	14	63.6	19	10	ACC49937	Acc49937	Human imm	517	13.6	61.8	33	6	AAH33200	AAH33200	Human SNP
445	14	63.6	20	6	ABO75220	AbO75220	ISS immun	518	13.6	61.8	51	4	AAH33331	AAH33331	Human SP1
446	14	63.6	20	6	ADB88850	AdB88850	Chimeric	519	13.6	61.8	60	6	ABN43331	ABN43331	Human SP1
447	14	63.6	20	6	ABO75181	AbO75181	ISS immun	520	13.6	61.8	62	3	AAH296319	AAH296319	S. cerevi
448	14	63.6	22	2	ADB88849	AdB88849	Chimeric	521	13.6	61.8	77	2	AAH70825	AAH70825	Full leng
449	14	63.6	22	12	AD055245	AdO55245	Immune mo	522	13.6	61.8	85	4	AAH25446	AAH25446	Probe #15
450	14	63.6	22	12	AD055285	AdO55285	Immune mo	523	13.6	61.8	85	4	ABA71541	ABA71541	Human f0e
451	14	63.6	22	12	AD055361	AdO55361	Immune mo	524	13.6	61.8	85	4	AAH51816	AAH51816	Probe #20
452	14	63.6	22	12	AD055244	AdO55244	Immune mo	525	13.6	61.8	85	4	ABA37708	ABA37708	Probe #16
453	14	63.6	22	12	AD055282	AdO55282	Immune mo	526	13.6	61.8	85	4	AAH45898	AAH45898	Human Don
454	14	63.6	22	12	AD055333	AdO55333	Immune mo	527	13.6	61.8	85	4	AAH19870	AAH19870	Human b1a
455	14	63.6	22	12	AD055341	AdO55341	Immune mo	528	13.6	61.8	85	4	ABH45595	ABH45595	Human liv
456	14	63.6	22	12	AD055383	AdO55383	Immune mo	529	13.6	61.8	85	6	ABH20182	ABH20182	Human gen
457	14	63.6	22	12	AD055338	AdO55338	Immune mo	530	13.6	61.8	97	2	AAH81923	AAH81923	Interfero
458	14	63.6	22	12	AD055382	AdO55382	Immune mo	531	13.6	61.8	98	2	AAH81897	AAH81897	Interfero
459	14	63.6	22	12	AD055447	AdO55447	Immune mo	532	13.6	61.8	98	2	AAH81897	AAH81897	Interfero

C 533	13.6	61.8	98 2	AAQ81895	AaQ81895 Interfero	C 606	12.8	58.2	29 12	AD012948	Ad012948 Single mu
C 534	13.6	61.8	98 2	AAQ81931	AaQ81931 Interfero	C 607	12.8	58.2	30 2	AAV12042	AaV12042 Primer NX
C 535	13.6	61.8	98 2	AAQ81920	AaQ81920 Interfero	C 608	12.8	58.2	30 6	ABK47427	AbK47427 Human gam
C 536	13.6	61.8	98 2	AAQ81659	AaQ81659 bRFG bind	C 609	12.8	58.2	30 12	ADP70820	AdP70820 Humanized
C 537	13.6	60.9	25 9	ACT70189	Acti70189 Human mic	C 610	12.8	58.2	31 4	AAE73185	AaE73185 acFv(Dig)
C 538	13.2	60.0	20 12	ADK61717	AdK61717 Primer of	C 611	12.8	58.2	36 2	AAQ84541	AaQ84541 Mycobacte
C 539	13.2	60.0	25 9	ACI69977	Acti69977 Human mic	C 612	12.8	58.2	41 5	AAE82307	AaE82307 Primer #2
C 540	13.2	60.0	25 9	ACI98069	Acti98069 Human mic	C 613	12.8	58.2	60 6	ABN47357	Abn47357 Human spl
C 541	13.2	60.0	25 9	ACI26771	Acti26771 Human mic	C 614	12.6	57.3	19 3	AAAS7373	AaA7373 PCR prime
C 542	13.2	60.0	25 9	ACK15038	Ack15038 Human mic	C 615	12.6	57.3	20 6	ABK95430	AbK95430 Human ret
C 543	13.2	60.0	36 2	AAZ10583	Aaz10583 PCR prime	C 616	12.6	57.3	25 9	ACI50104	Acti50104 Human mic
C 544	13.2	60.0	36 2	AAE62393	Aae62393 Bacillus	C 617	12.6	57.3	25 9	ACK09388	Ack09388 Human mic
C 545	13.2	60.0	36 5	AAE77169	Aae77169 Primer F2	C 618	12.6	57.3	25 9	ACI19172	Acti19172 Human mic
C 546	13.2	60.0	41 6	ABZ49548	Abz49548 Human glu	C 619	12.6	57.3	25 9	AAE58314	Aae58314 Probe #1
C 547	13.2	60.0	41 6	ABZ49566	Abz49566 Human glu	C 620	12.6	57.3	25 10	ADE37832	AdE37832 Human cal
C 548	13.2	60.0	45 4	AAAC8250	Aaac8250 Human ret	C 621	12.6	57.3	25 12	ADL26886	AdL26886 Probe #1
C 549	13.2	60.0	59 3	AAZ96812	Aaz96812 S. cerevi	C 622	12.6	57.3	25 12	ADL26903	AdL26903 Probe #1
C 550	13.2	60.0	65 6	ABN29802	Abn29802 Rat splc	C 623	12.6	57.3	25 12	ADP07241	AdP07241 Human cal
C 551	13.2	60.0	65 6	ABN54932	Abn54932 Mouse spl	C 624	12.6	57.3	26 2	AAQ84527	AaQ84527 Mycobacte
C 552	13.2	60.0	74 6	ABK39554	Abk39554 CDNA enco	C 625	12.6	57.3	26 6	AAI43781	Aai43781 Human NOV
C 553	13.2	60.0	74 8	ACA11883	Aca11883 Human lun	C 626	12.6	57.3	26 6	AAI43799	Aai43799 Human NOV
C 554	13.2	60.0	74 8	ACA03069	Aca03069 Lung canc	C 627	12.6	57.3	26 10	ABE28995	AbE28995 SF5 PCR P
C 555	13.2	60.0	74 10	ADH47311	Adh47311 Human lun	C 628	12.6	57.3	26 10	ADD72168	AdD72168 Human NOV
C 556	13.2	60.0	77 2	AAI97633	Aai97633 Nucleic a	C 629	12.6	57.3	26 10	ADD72150	AdD72150 Human NOV
C 557	13.2	60.0	77 3	AAZ52767	Aaz52767 SBLEX 11g	C 630	12.6	57.3	26 12	ADM93740	AdM93740 Human NOV
C 558	13.2	60.0	84 8	ACA03969	Aca03969 CDNA down	C 631	12.6	57.3	26 12	ADO31876	AdO31876 Human CFT
C 559	13.2	60.0	87 6	AAI49918	Aai49918 Rat pro-o	C 632	12.6	57.3	27 2	AAQ34964	AaQ34964 Human NOV
C 560	13.2	60.0	97 2	AAQ81916	AaQ81916 Interfero	C 633	12.6	57.3	27 6	ADA43434	Ada43434 Human aat
C 561	13.2	60.0	98 2	AAQ81919	AaQ81919 Interfero	C 634	12.6	57.3	27 6	ABA98998	AbA98998 Human aat
C 562	13.2	59.1	20 6	ABQ75171	Abq75171 ISS immu	C 635	12.6	57.3	30 4	AAE74420	Aae74420 PCR prime
C 563	13.2	59.1	20 6	ADB88839	Adb88839 Chimeric	C 636	12.6	57.3	30 9	ACC85418	Acc85418 Xylanase
C 564	13.2	59.1	22 12	AD055317	Ad055317 Immune mo	C 637	12.6	57.3	30 9	AAQ45505	Aaq45505 Sequence
C 565	13.2	59.1	22 12	AD055424	Ad055424 Immune mo	C 638	12.6	57.3	31 6	ACN21930	Acn21930 MNV DNazY
C 566	13.2	59.1	22 12	AD055420	Ad055420 Immune mo	C 639	12.6	57.3	39 6	ABK71887	AbK71887 Aspergill
C 567	13.2	59.1	22 12	AD055427	Ad055427 Immune mo	C 640	12.6	57.3	41 8	ABE257218	AbE257218 Human bod
C 568	13.2	59.1	22 12	AD055430	Ad055430 Immune mo	C 641	12.6	57.3	42 6	ABL53397	AbL53397 Oligonuc
C 569	13.2	59.1	22 12	AD055302	Ad055302 Immune mo	C 642	12.6	57.3	42 6	ABL57798	AbL57798 Oligonuc
C 570	13.2	59.1	22 12	AD055416	Ad055416 Immune mo	C 643	12.6	57.3	42 6	ABL57797	AbL57797 Oligonuc
C 571	13.2	59.1	22 12	AD055314	Ad055314 Immune mo	C 644	12.6	57.3	42 6	ABL57799	AbL57799 Oligonuc
C 572	13.2	59.1	22 12	AD055316	Ad055316 Immune mo	C 645	12.6	57.3	42 6	ABL57800	AbL57800 Oligonuc
C 573	13.2	59.1	22 12	AD055426	Ad055426 Immune mo	C 646	12.6	57.3	42 6	ABL53398	AbL53398 Oligonuc
C 574	13.2	59.1	22 12	AD055412	Ad055412 Immune mo	C 647	12.6	57.3	57 2	AAE71742	Aae71742 Primer PC
C 575	13.2	59.1	22 12	AD055431	Ad055431 Immune mo	C 648	12.6	57.3	59 2	AAE742373	Aae742373 Clone X3,
C 576	13.2	59.1	22 12	AD055310	Ad055310 Immune mo	C 649	12.6	57.3	60 6	ABN37172	Abn37172 Human spl
C 577	13.2	59.1	25 9	ACI77675	Acti77675 Human mic	C 650	12.6	57.3	60 6	ABN37900	Abn37900 Human spl
C 578	13.2	59.1	25 9	ACI04461	Acti04461 Human mic	C 651	12.6	57.3	60 6	ABN46606	Abn46606 Human spl
C 579	13.2	59.1	25 9	ACI05097	Acti05097 Human mic	C 652	12.6	57.3	61 4	AAK96541	Aak96541 Human neu
C 580	13.2	59.1	30 3	AAA40653	Aaa40653 SHR seque	C 653	12.6	57.3	61 4	AAK98034	Aak98034 Human neu
C 581	13.2	59.1	30 12	AD011653	Ad011653 Single mu	C 654	12.6	57.3	61 6	ABE701311	AbE701311 Human neu
C 582	13.2	59.1	30 12	AD011653	Ad011653 Single mu	C 655	12.6	57.3	61 6	ABE702804	AbE702804 Human neu
C 583	13.2	59.1	34 4	AAH43249	Aah43249 Primer F3	C 656	12.6	57.3	65 6	ABN31710	Abn31710 Rat splc
C 584	13.2	59.1	34 4	AAH43060	Aah43060 Nucleotid	C 657	12.6	57.3	65 6	ABN54743	Abn54743 Mouse spl
C 585	13.2	59.1	50 6	ABZ07428	Abz07428 Human leu	C 658	12.6	57.3	65 6	ABN52198	Abn52198 Mouse spl
C 586	13.2	59.1	50 6	ABZ07134	Abz07134 Human leu	C 659	12.6	57.3	65 12	ADP97276	AdP97276 C. albica
C 587	13.2	59.1	50 6	ABZ06744	Abz06744 Human leu	C 660	12.6	57.3	76 2	AAE706175	Aae706175 HIV-1 int
C 588	13.2	59.1	50 6	ABZ07507	Abz07507 Human leu	C 661	12.6	57.3	80 12	ADM95238	AdM95238 Rat antis
C 589	13.2	59.1	60 6	AAE71740	Aae71740 Primer PC	C 662	12.6	57.3	80 12	ADM95757	AdM95757 Rat antis
C 590	13.2	59.1	60 6	ABN50173	Abn50173 Human spl	C 663	12.6	57.3	82 2	AAE59050	Aae59050 Oligonuc
C 591	13.2	59.1	60 6	ABN45148	Abn45148 Human spl	C 664	12.6	57.3	97 2	AAQ81644	Aaq81644 bRFG bind
C 592	13.2	59.1	65 6	ABN29877	Abn29877 Rat splc	C 665	12.6	57.3	98 2	AAQ81914	Aaq81914 Interfero
C 593	13.2	59.1	65 6	AAAS1026	Aaas1026 DNA enco	C 666	12.6	57.3	98 2	AAQ80994	Aaq80994 HIV prote
C 594	13.2	59.1	69 8	ACCA1576	Acca1576 Human zln	C 667	12.6	57.3	98 2	AAQ80971	Aaq80971 HIV prote
C 595	13.2	59.1	91 6	ABSI17978	AbSI17978 Human gen	C 668	12.6	57.3	98 2	AAQ80985	Aaq80985 HIV prote
C 596	13.2	59.1	100 8	ACD79902	Actd79902 E. coli K	C 669	12.6	57.3	98 2	AAQ80962	Aaq80962 HIV prote
C 597	12.8	58.2	16 10	ADD01105	AdD01105 CpG K Oli	C 670	12.6	57.3	99 2	AAQ81654	Aaq81654 bRFG bind
C 598	12.8	58.2	20 12	AAAX92040	Aax92040 PCR prime	C 671	12.6	56.4	19 6	ABQ75221	Abq75221 ISS immu
C 599	12.8	58.2	22 12	AD078325	Ado78325 Human HRA	C 672	12.4	56.4	19 9	ABQ75222	Abq75222 ISS immu
C 600	12.8	58.2	24 12	AD055224	Ado55224 Generic I	C 673	12.4	56.4	19 9	ADB88891	AdB88891 Chimeric
C 601	12.8	58.2	25 9	ACI54468	Acti54468 Human mic	C 674	12.4	56.4	19 9	ADB88892	AdB88892 Chimeric
C 602	12.8	58.2	25 9	ACHS5168	Achs5168 DNA targ	C 675	12.4	56.4	20 2	AAZ41866	Aaz41866 IL-12 rec
C 603	12.8	58.2	25 9	ACHS2796	Achs2796 DNA targ	C 676	12.4	56.4	20 2	AAZ61013	Aaz61013 Nucleotid
C 604	12.8	58.2	25 10	ABX14938	Abx14938 Unlamp PC	C 677	12.4	56.4	20 3	AAZ47942	Aaz47942 Immuno re
C 605	12.8	58.2	29 12	AD012905	Ado12905 Single mu	C 678	12.4	56.4	20 3	AAZ47889	Aaz47889 Immuno re

C 679	12.4	56.4	20	3	AA247611	Parasitic	752	12.4	56.4	60	6	ABN36129	Abh36129 Human gp1
C 680	12.4	56.4	20	4	AAE98777	AbE98777 Cpg Immun	C 753	12.4	56.4	60	6	ABN37642	Abh37642 Human gp1
C 681	12.4	56.4	20	8	ABX89892	Cancer me	C 754	12.4	56.4	60	10	AAD64556	Aad64556 CEREB1C-R
C 682	12.4	56.4	20	9	ACA92748	Ac92748 Immunosti	C 755	12.4	56.4	65	6	ABN55536	Abn55536 Mouse gp1
C 683	12.4	56.4	20	10	ABX76080	Abx76080 Immunosti	C 756	12.4	56.4	65	6	ABN31808	Abh31808 Rat gp1c
C 684	12.4	56.4	20	10	ACA58745	Ac58745 Gastric u	C 757	12.4	56.4	65	6	ABN56556	Abn56556 Mouse gp1
C 685	12.4	56.4	20	12	AD010650	Ad010650 Single mu	C 758	12.4	56.4	65	6	ABN51073	Abh51073 Mouse gp1
C 686	12.4	56.4	20	12	AD007510	Ad007510 Immunosti	C 759	12.4	56.4	65	6	ABN27468	Abn27468 Rat gp1c
C 687	12.4	56.4	22	2	AAE94777	AAE94777 Human ST	C 760	12.4	56.4	65	6	ABN56991	Abn56991 Mouse gp1
C 688	12.4	56.4	22	2	AD055334	Ad055334 Immune mo	C 761	12.4	56.4	73	2	AAE73359	AAE73359 HGF nucle
C 689	12.4	56.4	22	12	AD055352	Ad055352 Immune mo	C 762	12.4	56.4	73	2	AAE71359	AAE71359 Red blood
C 690	12.4	56.4	22	12	AD055356	Ad055356 Immune mo	C 763	12.4	56.4	76	2	AAE06180	AAE06180 HIV-1 int
C 691	12.4	56.4	22	12	AD055344	Ad055344 Immune mo	C 764	12.4	56.4	80	12	ADM95150	ADM95150 Rat antic
C 692	12.4	56.4	22	12	AD055348	Ad055348 Immune mo	C 765	12.4	56.4	81	2	AAE88556	AAE88556 Secretary
C 693	12.4	56.4	22	12	AD055349	Ad055349 Immune mo	C 766	12.4	56.4	90	3	AAA94879	AAA94879 Primer #1
C 694	12.4	56.4	22	12	AD055456	Ad055456 Immune mo	C 767	12.4	56.4	90	12	ACH84066	ACH84066 Human gen
C 695	12.4	56.4	22	12	AD055452	Ad055452 Immune mo	C 768	12.4	56.4	92	3	AAA94876	AAA94876 Primer #1
C 696	12.4	56.4	22	12	AD055342	Ad055342 Immune mo	C 769	12.4	56.4	100	8	ACD76485	ACD76485 E. coli K
C 697	12.4	56.4	22	12	AD055396	Ad055396 Immune mo	C 770	12.4	56.4	100	8	ACD76486	ACD76486 E. coli K
C 698	12.4	56.4	22	12	AD055360	Ad055360 Immune mo	C 771	12.4	56.4	100	8	ACD76484	ACD76484 E. coli K
C 699	12.4	56.4	22	12	AD055380	Ad055380 Immune mo	C 772	12.4	56.4	100	8	ACD78659	ACD78659 E. coli K
C 700	12.4	56.4	22	12	AD055384	Ad055384 Immune mo	C 773	12.4	56.4	100	8	ACD69946	ACD69946 E. coli K
C 701	12.4	56.4	22	12	AD055246	Ad055246 Immune mo	C 774	12.4	56.4	100	8	ABE09799	ABE09799 Human oli
C 702	12.4	56.4	22	12	AD055270	Ad055270 Immune mo	C 775	12.4	56.4	100	10	ABE27952	ABE27952 Tumour su
C 703	12.4	56.4	22	12	AD055367	Ad055367 Immune mo	C 776	12.4	56.4	16	10	ADE94154	ADE94154 Alcohol/a
C 704	12.4	56.4	22	12	AD055253	Ad055253 Immune mo	C 777	12.4	55.5	17	6	ABE74567	ABE74567 Human PAP
C 705	12.4	56.4	22	12	AD055366	Ad055366 Immune mo	C 778	12.2	55.5	17	10	ADCC4751	ADCC4751 Human Na/
C 706	12.4	56.4	22	12	AD055286	Ad055286 Immune mo	C 779	12.2	55.5	20	6	ABE93197	ABE93197 Human uti
C 707	12.4	56.4	22	12	AD055458	Ad055458 Immune mo	C 780	12.2	55.5	20	6	ABE95426	ABE95426 Human ret
C 708	12.4	56.4	22	12	AD055462	Ad055462 Immune mo	C 781	12.2	55.5	21	12	ADU75558	ADU75558 MM99 forw
C 709	12.4	56.4	22	12	AD055463	Ad055463 Immune mo	C 782	12.2	55.5	22	12	AD078324	AD078324 Human HRA
C 710	12.4	56.4	22	12	AD055346	Ad055346 Immune mo	C 783	12.2	55.5	22	12	AD078316	AD078316 Human HRA
C 711	12.4	56.4	22	12	AD055362	Ad055362 Immune mo	C 784	12.2	55.5	23	6	ABE152774	ABE152774 Primer fo
C 712	12.4	56.4	22	12	AD055448	Ad055448 Immune mo	C 785	12.2	55.5	23	10	ADCI1957	ADCI1957 Luciferin
C 713	12.4	56.4	22	12	AD055250	Ad055250 Immune mo	C 786	12.2	55.5	24	6	ABE62272	ABE62272 Analyte s
C 714	12.4	56.4	22	12	AD055400	Ad055400 Immune mo	C 787	12.2	55.5	24	6	ABE62210	ABE62210 Analyte s
C 715	12.4	56.4	22	12	AD055459	Ad055459 Immune mo	C 788	12.2	55.5	25	6	ABE75382	ABE75382 Human PAP
C 716	12.4	56.4	22	12	AD055363	Ad055363 Immune mo	C 789	12.2	55.5	25	6	ABE75385	ABE75385 Human PAP
C 717	12.4	56.4	23	2	AAV54305	AAV54305 Primer JW	C 790	12.2	55.5	25	6	ABE75388	ABE75388 Human PAP
C 718	12.4	56.4	23	2	AAE53387	AAE53387 Soluble s	C 791	12.2	55.5	25	6	ABE75386	ABE75386 Human PAP
C 719	12.4	56.4	24	2	AAE94775	AAE94775 Human ST	C 792	12.2	55.5	25	6	ABE75387	ABE75387 Human PAP
C 720	12.4	56.4	24	6	ABE18822	ABE18822 Capture o	C 793	12.2	55.5	25	6	ABE75389	ABE75389 Human PAP
C 721	12.4	56.4	24	6	ABE18823	ABE18823 Capture o	C 794	12.2	55.5	25	6	ABE75390	ABE75390 Human PAP
C 722	12.4	56.4	25	9	ACI59885	ACI59885 Human m1c	C 795	12.2	55.5	25	6	ABE75384	ABE75384 Human PAP
C 723	12.4	56.4	25	9	ACI00292	ACI00292 Human m1c	C 796	12.2	55.5	25	6	ABE75383	ABE75383 Human PAP
C 724	12.4	56.4	25	9	ACI42666	ACI42666 Human m1c	C 797	12.2	55.5	25	9	ACI47071	ACI47071 Human m1c
C 725	12.4	56.4	25	9	ACH58951	ACH58951 DNA targe	C 798	12.2	55.5	25	9	ACI40498	ACI40498 Human m1c
C 726	12.4	56.4	25	9	ACH58825	ACH58825 DNA targe	C 799	12.2	55.5	25	9	ACI92612	ACI92612 Human m1c
C 727	12.4	56.4	26	10	ADP48551	ADP48551 Rice oilig	C 800	12.2	55.5	25	9	ACI25476	ACI25476 Human m1c
C 728	12.4	56.4	32	9	AAE62884	AAE62884 Fcgammari	C 801	12.2	55.5	25	9	ACI25476	ACI25476 Human m1c
C 729	12.4	56.4	34	2	AAE78759	AAE78759 Bacillu	C 802	12.2	55.5	25	9	ACI12027	ACI12027 Human m1c
C 730	12.4	56.4	34	3	AAA8712	AAA8712 Spinnach m	C 803	12.2	55.5	25	9	ACI16359	ACI16359 Human m1c
C 731	12.4	56.4	34	4	AAA54569	AAA54569 Primer us	C 804	12.2	55.5	25	9	ACK20867	ACK20867 Human m1c
C 732	12.4	56.4	34	6	AAE2867	AAE2867 PCR prime	C 805	12.2	55.5	25	9	ACI60157	ACI60157 Human m1c
C 733	12.4	56.4	34	6	AAE33934	AAE33934 PCR prime	C 806	12.2	55.5	25	9	ACH62559	ACH62559 DNA targe
C 734	12.4	56.4	34	6	ABN87464	ABN87464 Spinnach R	C 807	12.2	55.5	25	9	ADCC06260	ADCC06260 Human Na/
C 735	12.4	56.4	41	8	ABX34071	ABX34071 Spinnach m	C 808	12.2	55.5	25	10	ADCC06261	ADCC06261 Human Na/
C 736	12.4	56.4	41	6	ABE244232	ABE244232 Human ATP	C 809	12.2	55.5	25	10	ADCC06262	ADCC06262 Human Na/
C 737	12.4	56.4	41	6	ABE245471	ABE245471 Human ATP	C 810	12.2	55.5	25	10	ADCC06263	ADCC06263 Human Na/
C 738	12.4	56.4	42	6	ABE245471	ABE245471 Human ATP	C 811	12.2	55.5	25	10	ADCC06265	ADCC06265 Human Na/
C 739	12.4	56.4	42	6	ABE246877	ABE246877 Human ATP	C 812	12.2	55.5	25	10	ADCC06258	ADCC06258 Human Na/
C 740	12.4	56.4	45	4	AAE03142	AAE03142 Escherich	C 813	12.2	55.5	25	10	ADCC06257	ADCC06257 Human Na/
C 741	12.4	56.4	50	6	ABE206947	ABE206947 Human leu	C 814	12.2	55.5	25	10	ADCC06259	ADCC06259 Human Na/
C 742	12.4	56.4	50	6	ABE202880	ABE202880 Human leu	C 815	12.2	55.5	25	10	ADCC06262	ADCC06262 Human Na/
C 743	12.4	56.4	50	6	ABE204562	ABE204562 Human leu	C 816	12.2	55.5	26	2	AAE59924	AAE59924 PCR prime
C 744	12.4	56.4	50	6	ABE206557	ABE206557 Human leu	C 817	12.2	55.5	29	2	AAE00498	AAE00498 Human tum
C 745	12.4	56.4	51	4	AAH40660	AAH40660 Human SNP	C 818	12.2	55.5	29	6	ABE14531	ABE14531 Human tum
C 746	12.4	56.4	54	12	ADP90576	ADP90576 Human hea	C 819	12.2	55.5	29	6	ABE88688	ABE88688 Human TNP
C 747	12.4	56.4	59	2	AAE28089	AAE28089 PCR prime	C 820	12.2	55.5	29	8	ADAB13406	ADAB13406 Tumour ne
C 748	12.4	56.4	60	6	ABN402070	ABN402070 Human gp1	C 821	12.2	55.5	29	10	ADP72616	ADP72616 Human tum
C 749	12.4	56.4	60	6	ABN43618	ABN43618 Human gp1	C 822	12.2	55.5	38	3	AAE73487	AAE73487 Single ba
C 750	12.4	56.4	60	6	ABN49933	ABN49933 Human gp1	C 823	12.2	55.5	39	6	ABE71883	ABE71883 Aspergill
C 751	12.4	56.4	60	6	ABN45083	ABN45083 Human gp1	C 824	12.2	55.5	39	6	ABE71883	ABE71883 Aspergill

C 825	12.2	55.5	40	10	ACa55229	Human Ige	C 898	12	54.5	25	9	ACt43637	Ac143637 Human mic
C 826	12.2	55.5	40	10	ACa55211	Human Ige	C 899	12	54.5	25	9	ACt24038	Ac124038 Human mic
C 827	12.2	55.5	40	10	ACa55191	Canine Ig	C 900	12	54.5	25	9	ACt56079	Ac156079 Human mic
C 828	12.2	55.5	42	8	ABz82299	RAM2 anti	C 901	12	54.5	25	9	ACt64627	Ac164627 Human mic
C 829	12.2	55.5	43	6	AA149906	Rat pro-o	C 902	12	54.5	26	8	ABx94808	Abx94808 Bovine CN
C 830	12.2	55.5	43	6	AA149898	Rat pro-o	C 903	12	54.5	26	8	ABx94807	Abx94807 Bovine CN
C 831	12.2	55.5	45	8	ABz82297	RAM1 anti	C 904	12	54.5	31	4	AA129905	AA129905 Human b1n
C 832	12.2	55.5	45	12	AD017918	Primer of	C 905	12	54.5	31	4	AA129905	AA129905 Human b1n
C 833	12.2	55.5	51	3	AAAT6446	Human e1o	C 906	12	54.5	31	10	ABt16413	ABt16413 Toxiciolog
C 834	12.2	55.5	51	3	AAAT6446	Human e1o	C 907	12	54.5	31	10	ABt16413	ABt16413 Toxiciolog
C 835	12.2	55.5	53	2	AAx56113	HIV-1 o1i	C 908	12	54.5	32	12	ADH41330	ADH41330 Human ova
C 836	12.2	55.5	60	2	AAAT85649	Canine im	C 909	12	54.5	32	12	ADt38958	ADt38958 Glucose-6
C 837	12.2	55.5	60	2	AAx56112	HIV-1 o1i	C 910	12	54.5	33	2	AAAT8956	AAAT8956 Mouse a1p
C 838	12.2	55.5	60	6	ABN41164	Human spl	C 911	12	54.5	34	2	AAx50538	AAx50538 Mouse a1p
C 839	12.2	55.5	60	6	ABN45031	Human spl	C 912	12	54.5	39	4	AAx88029	AAx88029 Ku protei
C 840	12.2	55.5	60	6	ABN45345	Human spl	C 913	12	54.5	45	6	ABT34125	ABt34125 Human p1g
C 841	12.2	55.5	60	6	ABN39000	Human spl	C 914	12	54.5	50	8	ABz04078	ABz04078 Human l1u
C 842	12.2	55.5	60	6	ABN45890	Human spl	C 915	12	54.5	51	4	AA176028	AA176028 Human b1l
C 843	12.2	55.5	60	12	ADt67089	Codon opt	C 916	12	54.5	53	4	AAH22829	AAH22829 Human l1-
C 844	12.2	55.5	65	6	ABN57263	Mouse spl	C 917	12	54.5	53	5	AAx07657	AAx07657 Human l1-
C 845	12.2	55.5	65	6	ABN30655	Rat splc	C 918	12	54.5	53	6	ABK96190	ABK96190 Interleuk
C 846	12.2	55.5	65	6	ABN30655	Rat splc	C 919	12	54.5	53	6	AA037565	AA037565 Human l1-
C 847	12.2	55.5	65	6	ABN30793	Rat splc	C 920	12	54.5	53	6	ADJ08311	ADj08311 PCR prime
C 848	12.2	55.5	65	6	ABN57672	Mouse spl	C 921	12	54.5	53	3	AACT1058	AAc1058 Human bec
C 849	12.2	55.5	75	12	ADP85350	Ligand id	C 922	12	54.5	58	10	AAAD64549	AAd64549 CERE-F pr
C 850	12.2	55.5	79	12	ADP85350	Ligand id	C 923	12	54.5	58	10	AAAD64550	AAd64550 CERE-R pr
C 851	12.2	55.5	87	12	AAx85382	WHHL rabb	C 924	12	54.5	60	6	ABN58706	ABN58706 Human bpl
C 852	12.2	55.5	87	12	AAx85382	WHHL rabb	C 925	12	54.5	60	6	ABN35448	ABn35448 Human bpl
C 853	12.2	55.5	93	2	AAO81905	Interfero	C 926	12	54.5	60	6	ABN44434	ABn44434 Human bpl
C 854	12.2	55.5	93	2	AAO81905	Interfero	C 927	12	54.5	60	6	ABN46808	ABn46808 Human bpl
C 855	12.2	55.5	97	2	AAO80992	HIV prote	C 928	12	54.5	60	6	ABN45334	ABn45334 Human bpl
C 856	12.2	55.5	97	2	AAO80958	HIV prote	C 929	12	54.5	60	6	ABN42520	ABn42520 Human bpl
C 857	12.2	55.5	97	2	AAO80958	HIV prote	C 930	12	54.5	60	6	ABN32806	ABn32806 Human bpl
C 858	12.2	55.5	98	2	AAO81900	Interfero	C 931	12	54.5	60	10	AAAD64555	AAd64555 CERE1stc-F
C 859	12.2	55.5	98	2	AAO81915	Interfero	C 932	12	54.5	60	10	AAAD64558	AAd64558 CERE2nd-R
C 860	12.2	55.5	98	2	AAO81928	Interfero	C 933	12	54.5	60	10	AAAD64557	AAd64557 CERE2nd-F
C 861	12.2	55.5	98	2	AAO81901	Interfero	C 934	12	54.5	60	12	ADL67116	ADl67116 Codon opt
C 862	12.2	55.5	98	2	AAO81899	Interfero	C 935	12	54.5	60	12	ADML3276	ADm13276 Anti-HIV
C 863	12.2	55.5	98	2	AAO81661	bRGF bind	C 936	12	54.5	60	12	ADML3278	ADm13278 Anti-HIV
C 864	12.2	55.5	98	2	AAO81642	bRGF bind	C 937	12	54.5	60	12	ADML3275	ADm13275 Anti-HIV
C 865	12.2	55.5	98	2	AAO81660	bRGF bind	C 938	12	54.5	60	12	ADML3277	ADm13277 Anti-HIV
C 866	12.2	55.5	100	8	ACD75538	E. coli K	C 939	12	54.5	64	10	AAAD64593	AAd64593 ATt2/confs
C 867	12.2	55.5	100	8	ACD79877	E. coli K	C 940	12	54.5	65	6	ABz26370	ABz26370 Candida g
C 868	12.2	55.5	100	8	ACD81524	E. coli K	C 941	12	54.5	65	6	ABz29024	ABz29024 Candida g
C 869	12.2	54.5	20	8	ABST3345	Chimeric	C 942	12	54.5	65	6	ABN51334	ABn51334 Mouse spl
C 870	12.2	54.5	20	8	ABST3345	Chimeric	C 943	12	54.5	65	6	ABN29352	ABn29352 Rat splc
C 871	12.2	54.5	20	12	AD048818	Human c1s	C 944	12	54.5	65	6	ABN51170	ABN51170 Mouse bpl
C 872	12.2	54.5	21	6	ABT04918	Human G p	C 945	12	54.5	66	3	AAz86972	AAz86972 Retinobla
C 873	12.2	54.5	21	12	ADP48082	Human MRC	C 946	12	54.5	73	2	AAAT71353	AAt71353 Red blood
C 874	12.2	54.5	22	2	AAO73532	Alpha-add	C 947	12	54.5	74	2	AAAT71352	AAt71352 Red blood
C 875	12.2	54.5	22	2	AAAT99471	Human ST	C 948	12	54.5	77	2	AAAT84608	AAt84608 HIV-1 nuc
C 876	12.2	54.5	22	2	AAAT99463	Human ST	C 949	12	54.5	77	2	AAAT79104	AAt79104 RNA ligan
C 877	12.2	54.5	22	2	AAAT99465	Human ST	C 950	12	54.5	79	3	AAAC28677	AAc28677 Human bec
C 878	12.2	54.5	22	2	AAAT99469	Human ST	C 951	12	54.5	80	12	ADMP96183	ADm96183 Rat anti1s
C 879	12.2	54.5	24	6	ABST6830	Human mac	C 952	12	54.5	81	9	ADAO1661	ADa01661 Mouse car
C 880	12.2	54.5	24	6	ABST6830	Human mac	C 953	12	54.5	81	9	ADAO1661	ADa01661 Mouse car
C 881	12.2	54.5	24	6	ABST6830	Human mac	C 954	12	54.5	86	4	ABT71400	ABt71400 Probe #14
C 882	12.2	54.5	24	6	ABST6830	Human mac	C 955	12	54.5	86	4	ABT70577	ABt70577 Human f1e
C 883	12.2	54.5	24	6	ABST6830	Human mac	C 956	12	54.5	86	4	AA150741	AA150741 Probe #19
C 884	12.2	54.5	24	6	ABST6830	Human mac	C 957	12	54.5	86	4	AAK44764	AAk44764 Probe #15
C 885	12.2	54.5	25	2	AAAT76010	Rice c1an	C 958	12	54.5	86	4	AAK44764	AAk44764 Human b1n
C 886	12.2	54.5	25	2	AAAT76010	Rice c1an	C 959	12	54.5	86	4	AAK18824	AAk18824 Human bra
C 887	12.2	54.5	25	2	AAAT76010	Rice c1an	C 960	12	54.5	86	4	ABST44424	ABs44424 Human l1v
C 888	12.2	54.5	25	2	AAAT76010	Rice c1an	C 961	12	54.5	86	6	ABST19003	ABs19003 Human gen
C 889	12.2	54.5	25	2	AAAT76010	Rice c1an	C 962	12	54.5	86	6	ADt13484	ADt13484 Human gal
C 890	12.2	54.5	25	2	AAAT76010	Rice c1an	C 963	12	54.5	90	12	ADt13484	ADt13484 Human gal
C 891	12.2	54.5	25	2	AAAT76010	Rice c1an	C 964	12	54.5	95	6	ABT72599	ABt72599 Corn tabs
C 892	12.2	54.5	25	2	AAAT76010	Rice c1an	C 965	12	54.5	97	8	ACB28828	ACb28828 Prokaryot
C 893	12.2	54.5	25	2	AAAT76010	Rice c1an	C 966	12	54.5	97	8	AAO81913	AAO81913 Interfero
C 894	12.2	54.5	25	2	AAAT76010	Rice c1an	C 967	12	54.5	98	2	AAO81926	AAO81926 Interfero
C 895	12.2	54.5	25	2	AAAT76010	Rice c1an	C 968	12	54.5	98	2	AAO81898	AAO81898 Interfero
C 896	12.2	54.5	25	2	AAAT76010	Rice c1an	C 969	12	54.5	98	2	AAO81647	AAO81647 bRGF bind
C 897	12.2	54.5	25	2	AAAT76010	Rice c1an	C 970	12	54.5	100	8	ACD73472	ACd73472 E. coli K
C 898	12.2	54.5	25	2	AAAT76010	Rice c1an	C 971	12	54.5	100	8	ACD78826	ACd78826 E. coli K

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C 971 11.8 53.6 20 10 ADD01104
C 972 11.8 53.6 20 12 ADN02551
C 973 11.8 53.6 20 12 ADN02478
C 974 11.8 53.6 21 2 AAT79285
C 975 11.8 53.6 21 2 AAV43740
C 976 11.8 53.6 21 2 AA227015
C 977 11.8 53.6 21 2 AA35482
C 978 11.8 53.6 21 6 ABL35390
C 979 11.8 53.6 22 6 ABL35408
C 980 11.8 53.6 24 6 ABL35657
C 981 11.8 53.6 24 12 ADK96806
C 982 11.8 53.6 25 3 AA281938
C 983 11.8 53.6 25 5 ACI20197
C 984 11.8 53.6 25 5 ACI70188
C 985 11.8 53.6 25 5 ACI55886
C 986 11.8 53.6 25 5 ACI03886
C 987 11.8 53.6 25 5 ACI56707
C 988 11.8 53.6 25 5 ACI10846
C 989 11.8 53.6 25 5 ACI12917
C 990 11.8 53.6 25 5 ACK20975
C 991 11.8 53.6 25 5 ACI33920
C 992 11.8 53.6 25 5 ACK25862
C 993 11.8 53.6 25 5 ACI68263
C 994 11.8 53.6 25 5 ACI70814
C 995 11.8 53.6 25 5 ACI70815
C 996 11.8 53.6 25 5 ACI63765
C 997 11.8 53.6 25 5 ACI56706
C 998 11.8 53.6 25 5 ACI97451
C 999 11.8 53.6 25 5 ACK03855
1000 11.8 53.6 25 9 ACH57432
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ALIGNMENTS

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RESULT 1
AAV32079
ID AAV32079 standard; DNA; 22 BP.
XX
AC AAV32079;
XX
DT 09-SEP-1998 (first entry)
XX
DE Nucleotide sequence of DY1018.
XX
KM DY1018; beta-gal; ISS-PN/IMM; antigen; immune response; antibody;
KM immunisation; anaphylaxis; IGE; retinopathies; ss.
XX
OS Synthetic.
XX
FH Key Location/Qualifiers
FT modified_base 1..22
FT /*tag= a
FT /note= "phosphochiote backbone"
XX
XX WO9816247-A1.
XX
XX 23-APR-1998.
XX
XX 09-OCT-1997; 97WO-US019004.
XX
XX 11-OCT-1996; 96US-0028118P.
XX
XX (REGC ) UNIV CALIFORNIA.
XX
XX Carson DA, Raz E, Roman M;
XX
XX WPI; 1998-261028/23.
XX
XX New immunomodulatory compositions - comprising an antigen conjugated to a
XX polynucleotide that contains an immunostimulatory sequence.
XX
XX Example 1; Page 36; 69pp; English.
PS
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XX This is the nucleotide sequence of DY1018, which is conjugated to beta-
CC gal to form ISS-PN/IMM, comprising an immunomodulatory molecule (IMM) ,
CC which comprises an antigen conjugated to a polynucleotide (PN) that
CC contains at least one immunostimulatory nucleotide sequence (ISS) . The
CC conjugate synergistically boost the magnitude of the host immune response
CC against an antigen to a level greater than the host immune response to
CC either the IMM, antigen or ISS-PN alone. These responses to ISS-PN/IMM
CC conjugates are particularly acute during the important early phase of the
CC host immune response to an antigen. The ISS-PN/IMM conjugates boost both
CC humoral (antibody) and cellular (Th1 type) immune responses of a host .
CC Thus, use of the method to boost the immune responsiveness of a host to
CC subsequent challenge by a sensitising antigen without immunisation avoids
CC the risk of Th2-mediated, immunisation-induced anaphylaxis by suppressing
CC IgE production in response to the antigen challenge. The conjugates can
CC also be used to combat pathogenic infection and to stimulate therapeutic
CC angiogenesis to treat conditions in which localised blood flow plays a
CC significant etiological role, e.g. retinopathies
SQ Sequence 22 BP; 6 A; 3 C; 7 G; 6 T; 0 U; 0 Other;
Query Match 100.0%; Score 22; DB 2; Length 22;
Best Local Similarity 100.0%; Pred. No. 0.21;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
QY 1 TGACTGTGAACGTCGAGATGA 22
1 TGACTGTGAACGTCGAGATGA 22
DB
RESULT 2
AAV80097
ID AAV80097 standard; DNA; 22 BP.
XX
AC AAV80097;
XX
DT 12-MAR-1999 (first entry)
XX
DE Immunomodulatory oligo comprising an ISS sequence.
XX
DE Immunomodulatory; immunostimulatory; octanucleotide; immune regulation;
KM ISS: cancer; allergy; asthma; hepatitis B infection; papillomavirus;
KM human immunodeficiency virus; influenza; herpes; M. tuberculosis; ss;
KM B. pertussis; malaria; plasmodia; leishmania; Trypanosoma; Schistosoma.
XX
OS Synthetic.
XX
PN WO9855495-A2.
XX
PD 10-DEC-1998.
XX
PF 05-JUN-1998; 98WO-US011578.
XX
PR 06-JUN-1997; 97US-0048793P.
XX
XX (DYNA-) DYNAVAX TECHNOLOGIES CORP.
XX
XX Schwartz D, Roman M, Dina D;
XX
XX WPI; 1999-059898/05.
XX
XX Immunostimulatory oligonucleotides regulate the immune system - and
XX contain an immune-stimulating octanucleotide sequence; for treating
XX cancer, allergic and infectious diseases.
XX
XX Claim 5; Page 29; 63pp; English.
XX
XX The invention relates to immunomodulatory oligonucleotides that comprise
XX at least 1 immunostimulatory octanucleotide sequence (ISS) where the ISS
XX sequences are selected from the group consisting of AAGCTTCC, AAGCTTCC,
XX GACGTTCC, and GACGTTCC. The immunomodulatory sequences are used to treat
XX patients needing immune regulation, such as those suffering from cancer,
XX an allergic disease and asthma. They are also used to prevent infectious
CC
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CC diseases such as influenza, herpes, hepatitis B, human immunodeficiency
CC and papillomavirus, Hemophilus influenza, Mycobacterium tuberculosis and
CC Bordetella pertussis, malarial plasmodia, Leishmania, Trypanosoma and
CC Chistosoma. The immunomodulatory sequences are used to screen for human
CC immunostimulatory activity by incubating macrophage cells and the
CC immunosuppressive activity by incubating T_H1-biased
CC cytokine-secreting cells and determining the relative amount of T_H1-biased
CC cytokines in the supernatant. Sequences AA580096 to AA580103 represent
CC specific claimed examples of such immunomodulatory oligonucleotides
XX
XX
XX Sequence 22 BP, 6 A, 3 C, 7 G, 6 T, 0 U, 0 Other;

Query Match	100.0%	Score 22;	DB 2;	Length 22;
Best Local Similarity	100.0%	Pred. No. 0.21;		
Matches	22;	Conservative	0;	Indels 0;
		Mismatches	0;	Gaps 0

Qy 1 TGA CTGTGAACGTTGAGATGA 22
|||
Db 1 TGA CTGTGAACGTTGAGATGA 22

RESULT 3
AAV80103
ID AAV80103 standard; DNA; 22 BP

AC	AAV80103;
XX	
DT	12-MAR-1999 (first entry)

DE Immunomodulatory oligo comprising an ISS sequence.

KM Immunomodulatory; immunostimulatory; octanucleotide; immune regulation;
KM ISS: cancer; allergy; asthma; hepatitis B infection; papillomavirus;
KM human immunodeficiency virus; influenza; herpes; M. tuberculosis; ss;
KM B. pertussis; malaria; plasmodia; Leishmania; Trypanosoma; Schistosoma

OS Synthetic

	Key	Location/Qualifiers
FT	modified_base	11
FT		/*tag= a
FT		/note= "5-bromocytoc

PN W09855495-A2.

PD 10-DEC-1998

PF 05-JUN-1998; 98WO-US011578.

06-JUN-1997: 97US-0048793P.

PA (DYNA-) DYNAVAX TECHNOLOGIES CORP
AA
AA

XX	Schwartz P	Roman M	Nina D
BT			

XX WPB. 1000-050000/05
 DP

Immunostimulatory oligonucleotides regulate the immune system - and PT contain an immune-stimulating octanucleotide sequence; for treating PT cancer, allergic and infectious diseases.

PS CLAIM 24; Page 30; 63pp; English: YY

CC The invention relates to immunomodulatory oligonucleotides that comprise
CC at least 1 immunostimulatory octanucleotide sequence (ISS) where the ISS
CC sequences are selected from the group consisting of AAGCTTC, AAGCTCG,
CC GAGCTTC, and GAGCTCG. The immunomodulatory sequences are used to treat
CC patients needing immune regulation, such as those suffering from cancer,
CC an allergic disease and asthma. They are also used to prevent infectious
CC diseases such as influenza, herpes, hepatitis B, human immunodeficiency
CC and papillomavirus, Hemophilus influenza, Mycobacterium tuberculosis and
CC Bordetella pertussis, malarial plasmodia, Leishmania, trypanosoma and
CC Schistosoma. The immunomodulatory sequences are used to screen for human
CC immunostimulatory activity by incubating macrophage cells and the

CC oligonucleotide; and determining the relative amount of Th1-biased
CC cytokines in the supernatant. Sequences AAV80096 to AAV80103 represent
CC specific claimed examples of such immunomodulatory oligonucleotides
XX
SQ Sequence 22 BP; 6 A; 3 C; 7 G; 6 T; 0 U; 0 Other;

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..Query Match          100.0%; Score 22; DB 2; Length 22;
Best Local Similarity 100.0%; Pred. No. 0.21;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0.
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Oy      1  TGA CTGTGA ACGTTCGAGATGA 22
         |||||
Db      1  TGA CTGTGA ACGTTCGAGATGA 22

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RESULT 4	
AAV80102	
ID	AAV80102 standard; DNA; 22 BP.

DT	12-MAR-1999	(first entry)
XX		
AC	AAV80102;	
DT		

DE Immunomodulatory oligo comprising an ISS sequence.

KM Immunomodulatory; immunostimulatory; octanucleotide; immune regulation.
KM ISS: cancer; allergy; asthma; hepatitis B infection; papillomavirus;
KM human immunodeficiency virus; influenza; herpes; M. tuberculosis; S9;
KM B. pertussis; malaria; plasmid; Leishmania; Trypanosoma; Schistosoma

OS Synthetic.

	Key	Location/Qualifiers
FH	modified_base	11
FT		/*tag= a
FT		/note= "5-bromocytosine"
FT		

PN W09855495-A2

PD 10-DEC-1998

05-JUN-1998: 98WO-US011578.

AA 06-JTN-1997. 97JIS-0048793P
PB

AA
BA (DYNA-1) DYNAMIX TECHNOLOGIES CORP

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XX XX

XX Immunostimulatory oligonucleotides regulate the immune system - and PT contain an immune-stimulating octanucleotide sequence; for treating PT cancer, allergic and infectious diseases.

PS Claim 23; Page 30; 63pp; English.

CC The invention relates to immunomodulatory oligonucleotides that comprise
CC at least 1 immunostimulatory octanucleotide sequence (ISS) where the ISS
CC sequences are selected from the group consisting of AAGCTTC, AAGCTGC,
CC GAGCTTC, and GAGCTGC. The immunomodulatory sequences are used to treat
CC patients needing immune regulation, such as those suffering from cancer,
CC an allergic disease and asthma. They are also used to prevent infections
CC diseases such as influenza, herpes, hepatitis B, human immunodeficiency
CC and papillomavirus, Hemophilus influenza, Mycobacterium tuberculosis and
CC Bordetella pertussis, malarial plasmodia, Leishmania, Trypanosoma and
CC Schistosoma. The immunomodulatory sequences are used to screen for human
CC immunostimulatory activity by incubating macrophage cells and the
CC immunostimuloid; and determining the relative amount of Th1-biased
CC cytokines in the supernatant. Sequences AAV80096 to AAV80103 represent
CC specific claimed examples of such immunomodulatory oligonucleotides


```
RESULT 7
AAA38072
ID AAA38072 standard; DNA; 22 BP.
XX
XX AAA38072;
AC
XX
XX 24-AUG-2000 (first entry)
XX
XX Immunostimulatory sequence (ISS) #7.
DE
XX Immunostimulatory sequence; ISS; immunomodulator; glycoprotein 120;
KM gp120; human immunodeficiency virus; HIV; immune response; infection;
XX development; ss.
XX
XX Synthetic.
OS
XX
XX Key Location/Qualifiers
FH modified_base 11
FT /*tag= a
FT /mod_base= OTHER
FT /note= "5-Bromocytosine"
FT modified_base 15
FT /*tag= b
FT /mod_base= OTHER
FT /note= "5-Bromocytosine"
PN
XX WO200021556-A1.
XX
XX 20-APR-2000.
XX
XX 08-OCT-1999; 99WO-US023677.
XX
XX 09-OCT-1998; 98US-0103733P.
XX PR
XX 07-OCT-1999; 99US-00415186.
XX
XX (DYNA-) DYNAVAX TECHNOLOGIES CORP.
XX
XX Tighe H, Raz E, Schwartz D, Takabayashi K;
XX WPI; 2000-317846/27.
XX
XX Anti-HIV composition comprises immunostimulatory polynucleotides and HIV
PT glycoprotein gp120 useful for modulating, stimulating an immune response
PT against HIV in an HIV infected individual.
XX
XX Disclosure; Page 17; 65pp; English.
XX
XX The present invention relates to an immunostimulatory composition
CC comprising a human immunodeficiency virus (HIV) antigen, and an
CC immunomodulatory polynucleotide comprising an immunostimulatory sequence
CC (ISS). This sequence represents an ISS that can be used in the
CC composition. An immunostimulatory composition which comprises a gp120
CC conjugated to an immunomodulatory polynucleotide, or is proximately
CC associated to it and not conjugated, is used for modulating or
CC stimulating a specific immune response against gp120 in an individual by
CC producing anti-gp120 antibodies or gp120 specific cytotoxic T cells. It
CC is also used for suppressing or delaying development of HIV infection in
CC an individual infected with HIV or an individual at risk of infection
CC with HIV, respectively. It is also used for treating an individual
CC infected with HIV in need of immune modulation
XX
XX SQ Sequence 22 BP; 6 A; 3 C; 7 G; 6 T; 0 U; 0 Other;
Query Match 100.0%; Score 22; DB 3; Length 22;
Best Local Similarity 100.0%; Pred. No. 0.21;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
OY 1 TGACTGTGAACGTTGAGATGA 22
1 |||||||||||||||||||
Db 1 TGACTGTGAACGTTGAGATGA 22
1 |||||||||||||||||||
XX
XX RESULT 8
```

```
AAA38071
ID AAA38071 standard; DNA; 22 BP.
XX
XX AAA38071;
AC
XX
XX 24-AUG-2000 (first entry)
XX
XX Immunostimulatory sequence (ISS) #7.
DE
XX Immunostimulatory sequence; ISS; immunomodulator; glycoprotein 120;
KM gp120; human immunodeficiency virus; HIV; immune response; infection;
XX development; ss.
XX
XX Synthetic.
OS
XX
XX Key Location/Qualifiers
FH modified_base 11
FT /*tag= a
FT /mod_base= OTHER
FT /note= "5-Bromocytosine"
FT modified_base 15
FT /*tag= b
FT /mod_base= OTHER
FT /note= "5-Bromocytosine"
PN
XX WO200021556-A1.
XX
XX 20-APR-2000.
XX
XX 08-OCT-1999; 99WO-US023677.
XX
XX 09-OCT-1998; 98US-0103733P.
XX PR
XX 07-OCT-1999; 99US-00415186.
XX
XX (DYNA-) DYNAVAX TECHNOLOGIES CORP.
XX
XX Tighe H, Raz E, Schwartz D, Takabayashi K;
XX WPI; 2000-317846/27.
XX
XX Anti-HIV composition comprises immunostimulatory polynucleotides and HIV
PT glycoprotein gp120 useful for modulating, stimulating an immune response
PT against HIV in an HIV infected individual.
XX
XX Disclosure; Page 17; 65pp; English.
XX
XX The present invention relates to an immunostimulatory composition
CC comprising a human immunodeficiency virus (HIV) antigen, and an
CC immunomodulatory polynucleotide comprising an immunostimulatory sequence
CC (ISS). This sequence represents an ISS that can be used in the
CC composition. An immunostimulatory composition which comprises a gp120
CC conjugated to an immunomodulatory polynucleotide, or is proximately
CC associated to it and not conjugated, is used for modulating or
CC stimulating a specific immune response against gp120 in an individual by
CC producing anti-gp120 antibodies or gp120 specific cytotoxic T cells. It
CC is also used for suppressing or delaying development of HIV infection in
CC an individual infected with HIV or an individual at risk of infection
CC with HIV, respectively. It is also used for treating an individual
CC infected with HIV in need of immune modulation
XX
XX SQ Sequence 22 BP; 6 A; 3 C; 7 G; 6 T; 0 U; 0 Other;
Query Match 100.0%; Score 22; DB 3; Length 22;
Best Local Similarity 100.0%; Pred. No. 0.21;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
OY 1 TGACTGTGAACGTTGAGATGA 22
1 |||||||||||||||||||
Db 1 TGACTGTGAACGTTGAGATGA 22
1 |||||||||||||||||||
XX
XX RESULT 9
AAA38065
ID AAA38065 standard; DNA; 22 BP.
XX
XX AAA38065;
XX
```

DT 24-AUG-2000 (first entry)
XX Immunostimulatory sequence (ISS) #1.
DE
XX
XX Immunostimulatory sequence; ISS; immunomodulator; glycoprotein 120;
KM gp120; human immunodeficiency virus; HIV; immune response; infection;
KM development; ss.
XX
OS Synthetic.
XX
XX WO200021556-A1.
XX
XX
XX 20-APR-2000.
PD
XX
XX 08-OCT-1999; 99WO-US023677.
PF
XX
XX 09-OCT-1998; 98US-0103733P.
PR
XX 07-OCT-1999; 99US-00415186.
PR
XX
XX (DYNA-) DYNAVAX TECHNOLOGIES CORP.
PA
XX
XX Tighe H, Raz E, Schwartz D, Takabayashi K;
PI
XX WPI; 2000-317846/27.
DR
XX
XX Anti-HIV composition comprises immunostimulatory polynucleotides and HIV
PT glycoprotein gp120 useful for modulating, stimulating an immune response
PT against HIV in an HIV infected individual.
XX
XX
XX Claim 3; Page 16; 65pp; English.
PS
XX
XX The present invention relates to an immunostimulatory composition
CC comprising a human immunodeficiency virus (HIV) antigen, and an
CC immunomodulatory polynucleotide comprising an immunostimulatory sequence
CC (ISS). This sequence represents an ISS that can be used in the
CC composition. An immunostimulatory composition which comprises a gp120
CC conjugated to an immunomodulatory polynucleotide, or is proximately
CC associated to it and not conjugated, is used for modulating or
CC stimulating a specific immune response against gp120 in an individual by
CC producing anti-gp120 antibodies or gp120 specific cytotoxic T cells. It
CC is also used for suppressing or delaying development of HIV infection in
CC an individual infected with HIV or an individual at risk of infection
CC with HIV, respectively. It is also used for creating an individual
CC infected with HIV in need of immune modulation
CC
XX
SQ Sequence 22 BP; 6 A; 3 C; 7 G; 6 T; 0 U; 0 Other;
XX
XX
XX Query Match 100.0%; Score 22; DB 3; Length 22;
XX Best Local Similarity 100.0%; Pred.No.0.21;
XX Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
QY
1 TGAAGTGAACGTTGAGATGA 22
1 TGAAGTGAACGTTGAGATGA 22
DB
1 TGAAGTGAACGTTGAGATGA 22
1 TGAAGTGAACGTTGAGATGA 22
RESULT 10
AAA90458
ID AAA90458 standard; DNA; 22 BP.
XX
XX
XX AAA90458;
AC
XX
XX 10-JAN-2001 (first entry)
XX
XX
XX Cpg adjuvant oligonucleotide, SEQ ID NO:19.
DE
XX
XX
XX Cpg oligonucleotide; Cpg motif; microdroplet emulsion;
KM microemulsion; adsorbent microparticle; vaccine; Th1 immune response;
KM viral infection; bacterial infection; parasitic infection; HCV; HBV;
KM hepatitis C virus; hepatitis B virus; herpes simplex virus; HSV; HIV;
KM human immunodeficiency virus; cytomegalovirus; CMV; influenza virus;
KM rabies virus; cholera; diphtheria; tetanus; pertussis;
KM Helicobacter pylori; Haemophilus influenzae; malaria; ss.

XX
OS Synthetic.
XX
XX WO200050006-A2.
XX
XX
XX 31-AUG-2000.
PD
XX
XX 09-FEB-2000; 2000WO-US003331.
PF
XX
XX 26-FEB-1999; 99US-0121858P.
PR 29-JUL-1999; 99US-0146391P.
PR 28-OCT-1999; 99US-0161997P.
XX
XX (CHIR) CHIRON CORP.
PA
XX
XX O'hagan D, Olt GS, Donnelly J, Kazaz J, Ugazoli M, Singh M;
PI Barackman J;
XX
XX WPI; 2000-587123/55.
DR
XX
XX Microemulsion having an adsorbent surface comprising a microdroplet
PT emulsion consisting of a metabolizable oil and an emulsifying agent which
PT is a detergent, useful as a vaccine to treat bacterial, viral, and
PT parasitic infection.
XX
XX
XX Claim 17; Page 40; 95pp; English.
PS
XX
XX The invention relates to a microdroplet emulsion (microemulsion) with an
CC adsorbent surface, and which comprises a metabolizable oil and an
CC emulsifying agent (a detergent). It also relates to a composition
CC comprising the microemulsion and a microparticle with an adsorbent
CC surface, where the microparticle comprises a polymer selected from a
CC poly(alpha-hydroxy acid), a poly(hydroxy butyric acid), a polycaprolactone,
CC a polythioester, a polyanhydride, and a polycyanoacrylate, and a second
CC detergent. The surface of the microparticles efficiently adsorb
CC biologically active macromolecules such as DNA, polypeptides, antigens,
CC hormones, pharmaceuticals, enzymes, mediators of transcription or
CC translation, metabolic intermediates and adjuvants. Additionally, a
CC second biologically active molecule may be encapsulated within the
CC microparticle. The microemulsion can be used in methods of immunising a
CC host animal, particularly a human, against a viral, bacterial or
CC parasitic infection, and in methods of increasing a Th1 immune response.
CC The microemulsions (having the appropriate antigens adsorbed) may be
CC particularly used as vaccines for hepatitis C virus (HCV), hepatitis B
CC virus (HBV), herpes simplex virus (HSV), human immunodeficiency virus
CC (HIV), cytomegalovirus (CMV), influenza virus, and rabies virus; the
CC bacteria which cause cholera, diphtheria, tetanus and pertussis;
CC Helicobacter pylori and Haemophilus influenzae; and malaria-causing
CC parasites. Sequences AAA90447-A90467 represent Th1 lymphocyte stimulating
CC oligonucleotides containing at least one Cpg motif which are claimed for
CC use as adjuvants in the compositions of the invention
XX
XX
SQ Sequence 22 BP; 6 A; 3 C; 7 G; 6 T; 0 U; 0 Other;
XX
XX
XX Query Match 100.0%; Score 22; DB 3; Length 22;
XX Best Local Similarity 100.0%; Pred.No.0.21;
XX Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
QY
1 TGAAGTGAACGTTGAGATGA 22
1 TGAAGTGAACGTTGAGATGA 22
DB
1 TGAAGTGAACGTTGAGATGA 22
1 TGAAGTGAACGTTGAGATGA 22
RESULT 11
AAA96253
ID AAA96253 standard; DNA; 22 BP.
XX
XX
XX AAA96253;
AC
XX
XX 08-FEB-2001 (first entry)
XX
XX
XX Sequence of a stabilised oligonucleotide with anticancer activity.
DE
XX

KW Antitumour; immunostimulatory oligonucleotide; tumour; anaplasia;
KW glioblastoma; medulloblastoma; neuroblastoma; melanoma; carcinoma; ss.
XX Synthetic.
OS
XX WO200056342-A2.
XX
XX 28-SEP-2000.
XX
XX 17-MAR-2000; 2000WO-FR000676.
XX
XX 19-MAR-1999; 99FR-00003433.
XX
XX (ASSI-) ASSISTANCE PUBLIQUE HOPITAUX PARIS.
PA (INRM) INST NAT SANTE & RECH MEDICALE.
XX
XX
PI Carpenter A;
XX
XX WPI; 2000-602192/57.
XX
XX Use of stabilised oligonucleotides as antitumor agents, particularly
PT against nervous system tumors, have optimal activity and are not toxic.
XX
XX Example 2; Page 16; 57pp; French.
XX
XX The present sequence represents a stabilised oligonucleotide which has
CC antitumor activity. The oligonucleotide comprises an octamer motif of
CC the type 5'-purine-purine-CG-pyrimidine-pyrimidine-X-X-3', where the pair
CC X-X is AT, AA, CT or TT. The oligonucleotides are immunostimulatory, and
CC are not toxic. They may be adapted for use in animals or humans. The
CC stabilised oligonucleotides are used for treating tumors, of any type
CC and any degree of anaplasia, particularly human tumors in the peripheral
CC or central nervous systems, specifically glioblastomas, medulloblastomas,
CC neuroblastomas, melanomas or carcinomas
XX
SQ Sequence 22 BP; 6 A; 3 C; 7 G; 6 T; 0 U; 0 Other;
Query Match 100.0%; Score 22; DB 3; Length 22;
Best Local Similarity 100.0%; Pred. No. 0.21;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
QY 1 TGACTGTGAACGTCGAGATGA 22
DB 1 TGACTGTGAACGTCGAGATGA 22
RESULT 12
AAZ55876 standard; DNA; 22 BP.
XX
XX AAZ55876;
XX
XX 10-APR-2000 (first entry)
XX
XX Immunomodulatory oligonucleotide SEQ ID NO: 1.
XX
XX Immunomodulation; immunostimulatory sequence; adjuvant;
KW Th1 immune response; cytotoxic T-cell; cytokine; cancer; allergy; asthma;
KW immunoreceptor; ss.
XX
XX Mus musculus.
OS Synthetic.
XX
XX Key Location/Qualifiers
FT modified_base 1..22
FT /tag= a
FT /note= "Phosphorothioate linkages"
FT 9..16
FT /tag= b
FT /note= "Immunostimulatory sequence (ISS)"
XX
XX WO962923-A2.
XX

PD 09-DEC-1999.
XX
XX 04-JUN-1999; 99WO-US012538.
XX
XX 05-JUN-1998; 98US-0088310P.
XX
XX 01-JUN-1999; 99US-00324191.
XX
XX (DYNA-) DYNAVAX TECHNOLOGIES CORP.
XX
XX Schwartz D;
XX
XX WPI; 2000-105687/09.
XX
XX Novel immunomodulatory oligonucleotide used to induce a Th1-type immune
PT response, e.g. to tumor antigens.
XX
XX Example 1; Page 35; 54pp; English.
XX
XX Sequences AAZ55876-255877 and AAZ55880-255886 represent immunomodulatory
CC oligonucleotides comprising an immunostimulatory sequence (ISS, e.g.,
CC AACGTC, AACGTT, AGCGTC, AGCGCT, AGCGTT, GACGTC, GACGTT, GACGTC
CC and GACGTC). The invention relates to oligonucleotides comprising one
CC or more ISSs, where the ISS comprises at least one modified cytosine with
CC an electron-withdrawing moiety at position C-5 or C-6 of the base.
CC Sequences AAZ55877 and AAZ55880-255886 contain ISSs comprising at least
CC one bromocytosine, whereas sequence AAZ55876 contains an unmodified ISS.
CC The immunomodulatory oligonucleotides have an adjuvant-like effect; when
CC formulated with an antigen, the oligonucleotides stimulate production of
CC Th1-type cytokines, and induce a Th1-type immune response (activation of
CC cytotoxic T cells), while simultaneously downregulating the Th2-type
CC response. The Th1 response is particularly effective for control of
CC viruses and intracellular parasites. The immunomodulatory
CC oligonucleotides are used, particularly when formulated with an antigen
CC or a facilitator, for modulating immune responses. Such compositions may
CC be used in tumor therapy, in treatment of allergy (including asthma),
CC for inducing a vigorous cellular response (against a virus, bacterium,
CC fungus or protozoan), and also in contraceptive vaccines based on sperm
CC antigens
XX
SQ Sequence 22 BP; 6 A; 3 C; 7 G; 6 T; 0 U; 0 Other;
Query Match 100.0%; Score 22; DB 3; Length 22;
Best Local Similarity 100.0%; Pred. No. 0.21;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
QY 1 TGACTGTGAACGTCGAGATGA 22
DB 1 TGACTGTGAACGTCGAGATGA 22
RESULT 13
AAC64051 standard; DNA; 22 BP.
XX
XX AAC64051;
XX
XX 15-FEB-2001 (first entry)
XX
XX Immunostimulatory CpG phosphorothioate oligodeoxynucleotide.
XX
XX CpG oligodeoxynucleotide; phosphorothioate; immunostimulatory; ISS ODN;
KW enhanced antigen presentation; antigen-presenting cell; APC;
KW T-cell activation; tumour cell; tumour antigen; cancer immunotherapy;
KW vaccine; ss.
XX
XX Synthetic.
XX
XX WO200062787-A1.
XX
XX 26-OCT-2000.
XX
XX 11-APR-2000; 2000WO-US009664.
XX
XX

PR 15-APR-1999; 99US-00292278.
XX (REGC) UNIV CALIFORNIA.
XX
PI Raz E, Martin-Orozco E;
XX
DR WPI; 2000-679548/66.
XX
PT Enhancing antigen-presentation capabilities of T-cells for cancer
PT immunotherapy, by contacting cells with an immunostimulatory
PT oligonucleotide.
XX
PS Example 1; Page 18; 42pp; English.
XX
CC The invention relates to a method of inducing activation of T-cells to
CC respond to an antigen, comprising contacting antigen-presenting cells
CC (APC) with an immunostimulatory oligodeoxynucleotide (ISS-ODN). The APCs
CC thus treated have enhanced antigen presenting capabilities compared to
CC antigen-activated APCs. APCs with enhanced antigen-presentation
CC capabilities then present the antigen to T-cells. The method is useful
CC for cancer immunotherapy. The ISS-ODN is used to enhance the tumour
CC antigen presenting capacity of tumour cells, thereby inducing T-cell
CC activation, and is therefore useful for treating tumours. Additionally,
CC tumour cells treated with an ISS-ODN ex vivo are useful as vaccines. ISS-
CC ODN treated APCs are induced to take up antigen through upregulation of
CC Fc-receptor expression, to present antigen through upregulation of major
CC histocompatibility complex (MHC) Class I and II expression and CD40
CC expression, to produce co-stimulatory factors (B7 and CD40), to provide
CC cell-to-cell adhesion through upregulation of intercellular adhesion
CC molecule (ICAM) expression, and to increase Th1 stimulatory cytokine
CC production, all at levels greater than that achieved through contact of
CC APC with antigen alone. The present sequence represents a
CC phosphorothioate Cpg ISS-ODN used in the exemplifications of the
CC invention
XX
SQ Sequence 22 BP; 6 A; 3 C; 7 G; 6 T; 0 U; 0 Other;
XX
Query Match 100.0%; Score 22; DB 3; Length 22;
Best Local Similarity 100.0%; Pred. No. 0.21;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
QY 1 TGACTGTGAACGTTGAGATGA 22
DB 1 TGACTGTGAACGTTGAGATGA 22
XX
RESULT 14
AAH20403
ID AAH20403 standard; DNA; 22 BP.
XX
AC AAH20403;
XX
DT 03-AUG-2001 (first entry)
XX
DE Cpg motif containing oligonucleotide SEQ ID #21.
XX
XX
XX Immune system stimulator; Cpg motif; Cpg receptor; Cpg-R; antibacterial;
XX immune response; vaccine adjuvant; tumour immunotherapy; allergy;
XX anti-inflammatory; cystic fibrosis; sepsis; heart disease; chlamydia;
XX inflammatory bowel disease; arthritis; multiple sclerosis; ss.
XX
XX Unidentified.
XX
OS
XX
XX
XX Key Location/Qualifiers
FH modified_base 1..22
FT /+tag= a
FT /mod_base= OTHER
FT /note="Phosphorothioate internucleoside linkages"
XX
XX WO200132877-A2.
XX
XX 10-MAY-2001.
XX

PF 01-NOV-2000; 2000WO-US041735.
XX
XX 02-NOV-1999; 99US-0163157P.
XX
XX 24-NOV-1999; 99US-0167389P.
XX
XX (CHIR) CHIRON CORP.
XX
XX Mackichan ML;
XX
XX WPI; 2001-343486/36.
XX
XX
XX Novel Cpg receptor and nucleic acid molecule encoding the receptor, for
XX modulating immune response and for identifying compounds of therapeutic
XX use which bind and/or modulate the activity of the receptor.
XX
PS Example 1; Page 14; 41pp; English.
XX
CC Unmethylated CG dinucleotide sequences are commonly found in bacterial
CC DNA, and have been found to stimulate the innate immune system. Natural
CC killer and T cells are activated by exposure to oligonucleotides
CC containing Cpg motifs. Oligonucleotides containing Cpg motifs can be used
CC as adjuvants in vaccines. The present invention relates to a Cpg
CC receptor. The Cpg receptor contains a Toll homology domain (THD). The
CC Toll receptor family are associated with responses to pathogens. Cpg
CC oligonucleotides may act as stimulators of various immune responses. The
CC Cpg receptor or cells expressing the receptor are useful for identifying
CC a compound which binds to or modulates an activity of the Cpg receptor.
CC The compounds are useful in e.g. vaccine adjuvants promoting cell-
CC mediated immune responses, antibacterials, (e.g. protection from *Listeria*
CC infection), tumour immunotherapy, allergy treatment, (e.g. suppressing
CC IgE in human PBMC, shifting from Th2 to Th1) and as anti-inflammatory
CC agents (e.g. for use in cystic fibrosis, sepsis, heart disease,
CC chlamydia, inflammatory bowel disease, arthritis and multiple sclerosis).
CC The present sequence represents a Cpg motif containing oligonucleotide
CC used in examples demonstrating that Cpg oligonucleotides can activate the
CC MAPK pathways and NF-kappaB
XX
SQ Sequence 22 BP; 6 A; 3 C; 7 G; 6 T; 0 U; 0 Other;
XX
Query Match 100.0%; Score 22; DB 4; Length 22;
Best Local Similarity 100.0%; Pred. No. 0.21;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
QY 1 TGACTGTGAACGTTGAGATGA 22
DB 1 TGACTGTGAACGTTGAGATGA 22
XX
RESULT 15
AAH43338
ID AAH43338 standard; DNA; 22 BP.
XX
AC AAH43338;
XX
DT 13-DEC-2001 (first entry)
XX
DE Immunomodulatory polynucleotide 1018.
XX
XX
XX Immunomodulation; inflammation; gastrointestinal tract;
XX ulcerative colitis; Crohn's disease; inflammatory bowel disease;
XX diarrhoea; rectal bleeding; weight loss; colon; weight; lesion; ss.
XX
XX Synthetic.
XX
XX
XX WO200162207-A2.
XX
XX 30-AUG-2001.
XX
XX 22-FEB-2001; 2001WO-US006034.
XX
XX 23-FEB-2000; 2000US-0184256P.
XX
XX (REGC) UNIV CALIFORNIA.
XX

XX Raz E, Rachmliwitz D;
PI
XX
XX MPI; 2001-565393/63.
XX
PT Ameliorating gastrointestinal inflammation e.g. inflammatory bowel
PT disease involves administering an immunomodulatory nucleic acid.
XX
XX
XX Claim 7; Page 28; 58pp; English.
XX
CC The sequences given in AAH43338-48 represent immunomodulatory
CC polynucleotides which may be used to ameliorate inflammation of the
CC gastrointestinal tract by administering a nucleic acid comprising one of
CC these sequences. These polynucleotides all comprise an immunomodulatory
CC nucleotide sequence of 5'-CpG-3' (1). The nucleotides may be used for
CC ameliorating or reducing gastrointestinal inflammation e.g. chronic or
CC acute gastrointestinal inflammation, ulcerative colitis, Crohn's disease
CC caused by inflammatory bowel disease, diarrhoea, rectal bleeding, weight
CC loss; to reduce colon weight and colon lesions; to reduce a colonic
CC inflammation. The immunomodulatory polynucleotides treat inflammatory
CC bowel disease satisfactorily and effectively and have little or no
CC toxicity even at a high dosage of 5000 micro-g. They also reduce the
CC risk of colonic cancer by treating ulcerative colitis
XX
SQ Sequence 22 BP; 6 A; 3 C; 7 G; 6 T; 0 U; 0 Other;
Query Match 100.0%; Score 22; DB 4; Length 22;
Best Local Similarity 100.0%; Pred. No. 0.21;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
QY 1 TGACTGTGAACGTTGAGATGA 22
DB 1 TGACTGTGAACGTTGAGATGA 22
RESULT 16
AAH73439
ID AAH73439 standard; DNA; 22 BP.
XX
XX
AC AAH73439;
XX
DT 01-OCT-2001 (first entry)
XX
XX Immunomodulatory nucleic acid.
DE
XX
XX G3PDH gene; immunomodulatory oligonucleotide; infection; mycobacterium;
KM intracellular pathogen; anti-pathogenic; ss.
XX
XX Unidentified.
OS
XX
XX WO200155341-A2.
PN
XX
PD 02-AUG-2001.
XX
PF 30-JAN-2001; 2001WO-US003029.
XX
XX
PR 31-JAN-2000; 2000US-0179353P.
XX
XX
PA (REGC) UNITV CALIFORNIA.
PI
XX Raz E, Kornbluth R, Catanzaro A, Hayashi T, Carson DA;
XX MPI; 2001-483234/52.
DR
XX
PT Treating infection of intracellular pathogen e.g., Mycobacterium, in a
PT subject, involves administering immunomodulatory nucleic acid molecule to
PT inhibit intracellular replication of intracellular pathogen.
XX
XX
PS Example; Page 26; 54pp; English.
CC
CC The present invention describes a method of treating an infection caused
CC by an intracellular pathogen, involving administering to the patient an
CC immunomodulatory nucleic acid and an anti-pathogenic agent. This is

CC particularly useful in the treatment of mycobacterial infections. The
CC present sequence is an immunomodulatory nucleic acid described in the
CC exemplification of the invention
XX
SQ Sequence 22 BP; 6 A; 3 C; 7 G; 6 T; 0 U; 0 Other;
Query Match 100.0%; Score 22; DB 4; Length 22;
Best Local Similarity 100.0%; Pred. No. 0.21;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
QY 1 TGACTGTGAACGTTGAGATGA 22
DB 1 TGACTGTGAACGTTGAGATGA 22
RESULT 17
AAH75992
ID AAH75992 standard; DNA; 22 BP.
XX
XX
AC AAH75992;
XX
DT 15-NOV-2001 (first entry)
XX
XX Immunomodulatory oligonucleotide #1.
DE
XX
KM Immunomodulatory; immunostimulatory; Th1-type immune response;
KM Th2-type immune response; interferon; idiopathic pulmonary fibrosis;
KM viral infection; phosphorochioate; ss.
XX
XX Synthetic.
OS
FH Key Location/Qualifiers
FT modified_base 1..22
FT FT /*tag= a
FT FT /mod_base= OTHER
FT FT /note= "Phosphorochioate oligonucleotide"
XX
PN WO200168143-A2.
XX
PD 20-SEP-2001.
XX
XX
PF 12-MAR-2001; 2001WO-US007843.
XX
XX
PR 10-MAR-2000; 2000US-0188557P.
PR 09-MAR-2001; 2001US-00802376.
XX
XX (DYNA-) DYNAVAX TECHNOLOGIES CORP.
PA
XX
XX Van Nest G, Tuck S;
PI
XX
XX MPI; 2001-582389/65.
DR
XX
PT Immunomodulatory polynucleotide/microcarrier complexes comprise an
PT immunostimulatory sequence containing polynucleotide linked to a
PT nonbiodegradable microcarrier.
XX
XX
PS Claim 11; Page 49; 61pp; English.
XX
XX The present invention relates to immunomodulatory polynucleotide/
CC microcarrier complexes. The complexes comprise an immunostimulatory
CC sequence (ISS), e.g. the present sequence, linked to a nonbiodegradable
CC microcarrier provided that if the microcarrier is gold, latex or magnetic
CC then the linkage is not biotin/avidin. The complex is useful for
CC modulating an immune response (especially stimulating a Th1-type response
CC or suppressing a Th2-type response), increasing interferon-gamma
CC (especially in a patient suffering from idiopathic pulmonary fibrosis),
CC increasing interferon-alpha (especially in patients suffering from viral
CC infection) and reducing levels of Ige
XX
SQ Sequence 22 BP; 6 A; 3 C; 7 G; 6 T; 0 U; 0 Other;
Query Match 100.0%; Score 22; DB 4; Length 22;
Best Local Similarity 100.0%; Pred. No. 0.21;

Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 TGAAGTGAACGTCGAGATGA 22
 XX ||||||||||||||||||
 XX
 Db 1 TGAAGTGAACGTCGAGATGA 22

RESULT 18
 AAF77040
 ID AAF77040 standard; DNA; 22 BP.
 XX
 AC AAF77040;
 XX
 DT 15-MAY-2001 (first entry)
 XX
 DE Immunomodulatory DNA.
 XX
 KW Modulate; immune; antigen; immunostimulatory; ds.
 XX
 OS Synthetic.
 XX
 PN WO200112223-A2.
 XX
 PD 22-FEB-2001.
 XX
 PF 18-AUG-2000; 2000WO-US022835.
 XX
 PR 19-AUG-1999; 99US-0149768P.
 XX
 PA (DYNA-) DYNAVAX TECHNOLOGIES CORP.
 XX
 PI Van Nest G;
 XX
 DR WPI; 2001-211136/21.
 XX
 PT Modulating immune response to a second antigen in humans involves
 XX administering an immunostimulatory polynucleotide comprising an
 PT immunostimulatory sequence and a first antigen.
 XX
 PS Claim 31; Page 15; 63pp; English.
 XX
 CC The present invention relates to modulating an immune response to a
 CC second antigen in an individual, involving administering to the
 CC individual an immunomodulatory polynucleotide comprising an
 CC immunostimulatory sequence (ISS) and a first antigen
 XX
 SQ Sequence 22 BP; 6 A; 3 C; 7 G; 6 T; 0 U; 0 Other;

Query Match 100.0%; Score 22; DB 4; Length 22;
 Best Local Similarity 100.0%; Pred. No. 0.21;
 Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 TGAAGTGAACGTCGAGATGA 22
 XX ||||||||||||||||||
 XX
 Db 1 TGAAGTGAACGTCGAGATGA 22

RESULT 19
 AAF29800
 ID AAF29800 standard; DNA; 22 BP.
 XX
 AC AAF29800;
 XX
 DT 12-APR-2001 (first entry)
 XX
 DE Cholera toxin immunostimulatory nucleotide sequence.
 XX
 KW Immunostimulatory nucleotide sequence; immune response; cancer;
 KM antibody production; IFNgamma release; CTL activity; Th1 response;
 XX infection; allergy; ds.
 XX
 OS Unidentified.
 XX

PN WO200102007-A1.
 XX
 PD 11-JAN-2001.
 XX
 PF 30-JUN-2000; 2000WO-US018229.
 XX
 PR 02-JUL-1999; 99US-00347343.
 XX
 PA (REGC) UNIV CALIFORNIA.
 XX
 PI Raz E, Kobayashi H;
 XX
 DR WPI; 2001-138066/14.
 XX
 PT Enhancing immune response against pathogen or antigen associated with
 PT infectious diseases, an allergen or cancer, involves administering
 PT immunostimulatory nucleotide sequence prior to antigen exposure.
 XX
 PS Example 1; Page 14; 47pp; English.
 XX
 CC The present invention describes a method for enhancing an immune response
 CC to a substance, comprising administering an immunostimulatory nucleotide
 CC sequence to a subject prior to exposure to the substance. This can be
 CC used to enhance antibody production, IFNgamma release, CTL activity and
 CC Th1 related effects. The method can be used in the prevention and
 CC treatment of allergies, cancer and infections
 XX
 SQ Sequence 22 BP; 6 A; 3 C; 7 G; 6 T; 0 U; 0 Other;

Query Match 100.0%; Score 22; DB 4; Length 22;
 Best Local Similarity 100.0%; Pred. No. 0.21;
 Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 TGAAGTGAACGTCGAGATGA 22
 XX ||||||||||||||||||
 XX
 Db 1 TGAAGTGAACGTCGAGATGA 22

RESULT 20
 AAH44109
 ID AAH44109 standard; DNA; 22 BP.
 XX
 AC AAH44109;
 XX
 DT 12-SEP-2001 (first entry)
 XX
 DE 5' terminal NH2 group and a 3' terminal rhodamine moiety oligonucleotide.
 XX
 KW Peptide nucleic acid; intracellular protein delivery; cationic lipid;
 KM PNA; ss.
 XX
 OS Synthetic.
 XX
 FH Key Location/Qualifiers
 FT modified_base 1
 FT /*tag= a
 FT /mod_base= OTHER
 FT /note= "T has been modified at the 5' terminal with an
 FT NH2 group"
 FT modified_base 22
 FT /*tag= b
 FT /mod_base= OTHER
 FT /note= "A has been modified at the 3' terminal with
 FT rhodamine"
 XX
 PN WO200143778-A1.
 XX
 PD 21-JUN-2001.
 XX
 PF 15-DEC-2000; 2000WO-US033969.
 XX
 PR 17-DEC-1999; 99US-0172441P.
 XX

PA (GENE-) GENE THERAPY SYSTEMS INC.
XX
XX Felgner PL, Zelpahci O;
XX
XX
DR WPI; 2001-398080/42.
XX
PT Composition useful for intracellular delivery of a protein, comprises a
PT protein in operative association with a cationic intracellular delivery
PT vehicle comprising a cationic lipid, which is adapted to fuse with a cell
PT membrane.
XX
XX Example 3; Page 18; 33pp; English.
XX
XX The present invention describes a composition (I) for intracellular
CC delivery of a protein, comprising a protein in operative association with
CC a cationic intracellular delivery vehicle comprising a cationic lipid,
CC where the intracellular delivery vehicle is adapted to fuse with a cell
CC membrane, therefore effecting intracellular delivery of the associated
CC protein. Also described is a method for delivering a protein to a cell
CC involving providing the protein associated with a cationic lipid in such
CC a manner so as to form an intracellular delivery composition, and
CC contacting the delivery composition with a cell membrane of a cell, such
CC that the cationic lipid forms an association with a cell membrane and
CC delivers the protein into the cell. (I) is useful in the preparation of a
CC medicament for intracellular delivery of a therapeutic or prophylactic
CC protein. (I) is useful for delivering antibodies to intracellular
CC proteins to neutralise their activity, and to introduce therapeutically
CC useful, proteins, peptides or small molecules. (I) is useful for the in
CC vitro or in vivo delivery of antibodies or peptides which block the
CC function of specific intracellular proteins and affect cellular
CC metabolism, cell viability or virus replication. (I) is useful for
CC delivering any protein of interest, including therapeutically useful
CC proteins (e.g. tumour suppressor proteins, cystic fibrosis transmembrane
CC regulator (CFTR), adenosine deaminase (ADA), hexosaminidase A, peptides,
CC wild type protein counterparts of mutant proteins and cell surface
CC receptors) such as those for cytokines (e.g., interleukins, interferons,
CC colony stimulating factors) and peptide hormones. The present sequence
CC represents a peptide nucleic acid (PNA) oligonucleotide which is used in
CC an example from the present invention for intracellular delivery of
CC proteins
XX
SQ Sequence 22 BP; 6 A; 3 C; 7 G; 6 T; 0 U; 0 Other;
XX
Query Match 100.0%; Score 22; DB 4; Length 22;
Best Local Similarity 100.0%; Pred. No. 0.21;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
XX
QY 1 TGACTGTGAACGTTGAGATGA 22
DB 1 TGACTGTGAACGTTGAGATGA 22
XX
RESULT 21
AAC82107
ID AAC82107 standard; DNA; 22 BP.
XX
AC AAC82107;
XX
DT 07-MAR-2001 (first entry)
XX
DE Oligonucleotide ODNOC DNA SEQ ID NO. 2.
XX
XX Immunogenic; human immunodeficiency virus; immunostimulatory sequence;
KM ISS; beta-chemokine; anti-HIV; AIDS; Th1 immune response; primer;
KM HIV-specific cytotoxic T lymphocyte response; phosphorothioate; ss.
XX
XX Synthetic.
OS
XX
XX WO200067787-A2.
PN
XX
XX 16-NOV-2000.
PD
XX
XX 05-MAY-2000; 2000WO-US012495.
PF

XX
XX 06-MAY-1999; 99US-0132762P.
PR 25-AUG-1999; 99US-0150667P.
XX
XX
PA (IMMU-) IMMUNE RESPONSE CORP.
XX
XX Moss RB;
PI
DR WPI; 2001-031804/04.
XX
PT Human immunodeficiency virus (HIV) compositions useful for immunizing and
PT inhibiting AIDS in mammals, comprises HIV devoid of outer envelope
PT protein and an immunostimulatory nucleic acid sequence.
XX
XX Example 1; Page 26; 64pp; English.
XX
XX This invention describes a novel immunogenic composition (I), comprising
CC a whole-killed human immunodeficiency virus (HIV) devoid of outer
CC envelope protein gp120, an isolated nucleic acid molecule containing an
CC immunostimulatory sequence (ISS) and an adjuvant, which enhances beta-
CC chemokine levels in a mammal. The products of the invention have anti-HIV
CC activity. (I) is useful for immunizing and for inhibiting AIDS in a
CC mammal. The mammal can be a primate such as a human, (HIV seronegative or
CC seropositive humans) or a rodent, in particular the primate is a pregnant
CC mother or an infant. (I) can induce potent Th1 immune responses against a
CC broad spectrum of HIV epitopes and provides a strong HIV-specific
CC cytotoxic T lymphocyte response
XX
SQ Sequence 22 BP; 6 A; 3 C; 7 G; 6 T; 0 U; 0 Other;
XX
Query Match 100.0%; Score 22; DB 4; Length 22;
Best Local Similarity 100.0%; Pred. No. 0.21;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
XX
QY 1 TGACTGTGAACGTTGAGATGA 22
DB 1 TGACTGTGAACGTTGAGATGA 22
XX
RESULT 22
AAA92377
ID AAA92377 standard; DNA; 22 BP.
XX
AC AAA92377;
XX
DT 12-JAN-2001 (first entry)
XX
DE CG motif and CPA containing oligonucleotide SEQ ID NO:19.
XX
XX CG motif; complete Freund's adjuvant; phosphorothioate; immunogenic;
KM Neisseria antigen; Neisseria meningitidis; Neisseria gonorrhoeae;
KM bactericidal; antibacterial; vaccine; immunostimulatory; infection;
KM immune response; ss.
XX
XX Neisseria sp.
OS
XX
XX
FH Key location/Qualifiers
FT modified_base 1..22
FT /tag= a
FT /note= "preferably contains at least one phosphorothioate
FT bond"
XX
XX WO200050075-A2.
PN
XX
XX 31-AUG-2000.
PD
XX
XX 09-FEB-2000; 2000WO-IB000176.
PF
XX
XX 26-FEB-1999; 99US-0121792P.
PR
XX
XX (CHTR-) CHIRON SPA.
PA
XX
XX Grandi G, Rappuoli R, Giuliani MM, Pizsa M;
PI

XX WPI; 2001-015529/02.
DR
XX
XX Immunogenic composition useful for stimulating an immune response in a
PT mammal against *Neisseria* infection, comprises *Neisseria* antigen and an
PT adjuvant composition comprising an oligonucleotide with a CG motif.
XX
XX Claim 19; Page 9; 39pp; English.
XX
CC The present invention describes an immunogenic composition (I) comprising
CC a *Neisseria* antigen and an adjuvant composition comprising an
CC oligonucleotide comprising at least 1 CG motif. Also described is an
CC adjuvant composition (II) comprising an oligonucleotide which comprises
CC at least 1 CG motif and a complete Freund's adjuvant (CFA), where the
CC oligonucleotide preferably comprises at least one phosphorothioate bond.
CC AA92359 to AA92385 represent specifically claimed oligonucleotides of
CC the present invention. (I) is useful for stimulating an immune response
CC in a mammal, preferably a human, against *Neisseria* infection, preferably
CC *Neisseria meningitidis* infection and in the manufacture of a medicament
CC for inducing a protective immune response in a mammal
XX
SQ Sequence 22 BP; 6 A; 3 C; 7 G; 6 T; 0 U; 0 Other;
XX
Query Match 100.0%; Score 22; DB 4; Length 22;
Best Local Similarity 100.0%; Pred. No. 0.21;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
XX
QY 1 TGACTGTGAACGTTGAGATGA 22
1 TGACTGTGAACGTTGAGATGA 22
DB
XX
RESULT 23
AAH42533
ID AAH42533 standard; DNA; 22 BP.
XX
AC AAH42533;
XX
DT 01-OCT-2001 (first entry)
XX
DB Phosphorothioate beta-gal/immunostimulatory oligonucleotide.
XX
XX Anaphylactic hypersensitivity; immunomodulatory nucleic acid; vaccine;
KW anaphylaxis-associated symptom; Igs; histamine; phosphorothioate; ss.
XX
OS Synthetic.
XX
PN WO200145750-A1.
XX
PD 28-JUN-2001.
XX
PF 20-DEC-2000; 2000WO-US035064.
XX
PR 21-DEC-1999; 99US-0171830P.
XX
PA (REGC) UNITV CALIFORNIA.
XX
PI Raz E, Horner AA;
XX
DR WPI; 2001-475812/51.
XX
PT Reducing risk of anaphylactic hypersensitivity response to an allergen in
PT a subject, by administering an immunomodulating nucleic acid molecule
PT comprising a specific sequence.
XX
PS Example 1; Page 22; 39pp; English.
XX
CC The specification describes a method for reducing a symptom associated
CC with anaphylactic hypersensitivity or risk of anaphylactic reaction in a
CC subject. The method comprises administering to an individual a nucleic
CC acid molecule comprising an immunomodulatory nucleic acid molecule (INA)
CC comprising the sequence 5'-C-G-3' to reduce anaphylaxis-associated
CC symptom. The method is useful for reducing a symptom associated with

CC anaphylactic hypersensitivity, including elevated IgE level, elevated
CC histamine level, constriction of the airways and difficult breathing
CC which can lead to anaphylactic reaction or anaphylactic shock, thereby
CC reducing the risk of death. The present sequence represents a beta-
CC gal/immunostimulatory sequence, which was used as a vaccine to protect
CC against the development of anaphylactic hypersensitivity
XX
SQ Sequence 22 BP; 6 A; 3 C; 7 G; 6 T; 0 U; 0 Other;
XX
Query Match 100.0%; Score 22; DB 4; Length 22;
Best Local Similarity 100.0%; Pred. No. 0.21;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
XX
QY 1 TGACTGTGAACGTTGAGATGA 22
1 TGACTGTGAACGTTGAGATGA 22
DB
XX
RESULT 24
AAH41573
ID AAH41573 standard; DNA; 22 BP.
XX
AC AAH41573;
XX
DT 24-AUG-2001 (first entry)
XX
DB Immunostimulatory sequence (ISS) SEQ ID NO.1.
XX
XX Immunostimulatory sequence; ISS; immunomodulatory; immune response;
KW antigen; antiallergic; modulation; Th1 lymphocyte stimulation; allergy;
KW Th1-associated cytokine; Th2 lymphocyte suppression; cytokine; ss.
XX
OS Synthetic.
XX
PN WO200135991-A2.
XX
PD 25-MAY-2001.
XX
PF 15-NOV-2000; 2000WO-US031385.
XX
PR 15-NOV-1999; 99US-0165467P.
PR 14-NOV-2000; 2000US-0073136.
XX
PA (DYNA-) DYNAVAX TECHNOLOGIES CORP.
XX
PI Tuck S, Van Nest G;
XX
DR WPI; 2001-329209/34.
XX
PT Populations of conjugate molecules comprising polynucleotide
PT immunostimulatory sequences polynucleotides and antigens, useful for
PT controlling immune responses.
XX
PS Example 1; Page 30; 97pp; English.
XX
XX The present invention describes immunomodulatory populations ((I) and
CC ((II)) of conjugate molecules (CMs) comprising immunostimulatory sequences
CC ((ISS)) of polynucleotides and antigens. The extent of conjugation affects
CC the immunological properties (e.g. the extent of antigen-specific
CC antibody formation, including Th1-associated antibody formation) so the
CC conjugates are used for altering the type and extent of immune response.
CC (I) and (II) have immunomodulatory, immunosuppressive and antiallergic
CC activities, and can be used in the modulation of immune responses via the
CC stimulation of Th1 lymphocytes and Th1-associated cytokines, and
CC suppression of Th2 lymphocytes and cytokines. The populations ((I) and
CC ((II)) of conjugate molecules may be used for modulating immune responses
CC in individuals e.g. for the treatment of an allergic condition. (I) and
CC (II) may be used to modulate immune responses and therefore prevent
CC potentially harmful reactions to antigens. The present sequence
CC represents an ISS polynucleotide which is used in the exemplification of
CC the present invention
XX
SQ Sequence 22 BP; 6 A; 3 C; 7 G; 6 T; 0 U; 0 Other;

Query Match 100.0%; Score 22; DB 5; Length 22;
Best Local Similarity 100.0%; Pred. No. 0.21;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 TGACTGTGAACGTTGAGATGA 22
1 TGACTGTGAACGTTGAGATGA 22

RESULT 25

AS14664 standard; DNA; 22 BP.

AC AAS14664;

DT 18-DEC-2001 (first entry)

DE Immunostimulatory sequence, ISS #1.

KW Immunostimulatory sequence; ISS; ds; antiviral; immunogen;

KW respiratory syncytial virus; RSV; influenza virus; rhinovirus;

KW adenovirus; measles virus; mumps virus; parainfluenza virus;

OS Respiratory syncytial virus.

FT Key Location/Qualifiers

FT modified_base 1..22

FT /tag= OTHER

FT /label= OTHER

PN WO200168116-A2.

PD 20-SEP-2001.

PF 12-MAR-2001; 2001WO-US007839.

PR 10-MAR-2000; 2000US-0188583P.

PR 09-MAR-2001; 2001US-00802686.

PA (DYNA-) DYNAVAX TECHNOLOGIES CORP.

PI Van Nest G;

DR WPI; 2001-607438/69.

PT Suppressing a respiratory syncytial virus infection by administering an

PT immunostimulatory sequence at the site of infection is useful to prevent

PT and treat lower respiratory tract viral infections.

PS Claim 5; Page 37; 40pp; English.

CC The invention relates to suppressing a respiratory syncytial virus (RSV)

CC infection in an exposed individual, comprising administering a

CC polynucleotide comprising an immunostimulatory sequence (ISS) comprising

CC the sequence 5'-C, G-3', where an RSV antigen is not administered. The

CC invention is used to prevent and treat respiratory syncytial virus

CC influenza virus, rhinovirus, adenovirus, measles virus, mumps virus,

CC parainfluenza virus, rubella virus, poxvirus, parvovirus, hantavirus and

CC varicella virus. A kit for carrying out the administration is also

CC included. Unlike the prior art antiviral agent ribavirin, which is a

CC potential teratogen, the invention provides a treatment which does not

CC carry unacceptable side effects. Other prior art medicaments treat the

CC symptoms only, whilst the invention treats the infection. The present

CC sequence is an ISS of the invention

CC Sequence 22 BP; 6 A; 3 C; 7 G; 6 T; 0 U; 0 Other;

QY Query Match 100.0%; Score 22; DB 5; Length 22;

Best Local Similarity 100.0%; Pred. No. 0.21;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 TGACTGTGAACGTTGAGATGA 22
1 TGACTGTGAACGTTGAGATGA 22

RESULT 26

ABQ78627 standard; DNA; 22 BP.

AC ABQ78627;

DT 25-NOV-2002 (first entry)

DE ISS enhancing HIV-specific Th1 cytokine and humoral responses.

KW Immunostimulatory sequence; ISS; Th1 cytokine response; humoral response;

KW HIV; beta-chemokine; immunisation; AIDS; ss.

OS Unidentified.

PN WO200258726-A1.

PD 01-AUG-2002.

PF 24-JAN-2002; 2002WO-US002077.

PR 26-JAN-2001; 2001US-0264476P.

PA (IMMU-) IMMUNE RESPONSE CORP.

PI Moss RB, Carlo DJ;

DR WPI; 2002-643331/69.

PT Treating an HIV-infected individual comprises treatment with anti-

PT retroviral compound and immunization with an HIV immunogenic composition

PT with structured cycles of anti-retroviral treatment and withdrawal from

PS Disclosure; Page 15; 31pp; English.

CC The present sequence represents an exemplary immunostimulatory sequence

CC (ISS) which enhances HIV-specific Th1 cytokine and humoral responses, and

CC also enhances both non-specific and HIV-specific beta-chemokine

CC production. ISSs can be included in HIV immunogenic compositions of the

CC invention. The specification describes a method for treating an HIV-

CC infected individual, which comprises combining immunisation with an anti-

CC retroviral compound, an HIV immunogenic composition with structured

CC cycles of anti-retroviral treatment and withdrawal from treatment. The

CC advantages of the method of the invention include a delay in the rebound

CC to an unacceptably high viral load; a more rapid or sustained increase in

CC HIV-specific CD4 T cell counts; a reduction or delay in the development

CC of AIDS symptoms, including AIDS-related opportunistic infections; and a

CC higher degree of patient compliance with treatment and fewer toxic side

CC effects associated with long-term anti-retroviral drug treatment. The

CC method is useful for treating an HIV-infected individual

CC Sequence 22 BP; 6 A; 3 C; 7 G; 6 T; 0 U; 0 Other;

QY Query Match 100.0%; Score 22; DB 6; Length 22;

Best Local Similarity 100.0%; Pred. No. 0.21;

Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 TGACTGTGAACGTTGAGATGA 22

1 TGACTGTGAACGTTGAGATGA 22

RESULT 27

AAS15592

```

ID  AAS15592 standard; DNA; 22 BP.
XX
AC  AAS15592;
XX
XX  29-JAN-2002 (first entry)
XX
DE  Immunostimulatory oligonucleotide (ISS-ODN) #1.
XX
XX  Immunostimulatory oligonucleotide; ISS-ODN; anti-allergic; antibacterial;
XX  virus; fungicide; vaccine; immunogen; plant allergen; ragweed;
XX  grass pollen; food; latex; cat dander; cockroach; house dust mite;
XX  pathogenic parasite; ss.
XX
OS  Synthetic.
XX
PN  WO200176642-A1.
XX
PD  18-OCT-2001.
XX
PF  06-APR-2001; 2001WO-US011290.
XX
PR  07-APR-2000; 2000US-0195890P.
XX
XX  (REGC ) UNIV CALIFORNIA.
XX
PI  Raz E, Takabayashi K, Nguyen M;
XX
XX  WPI; 2002-025886/03.
XX
DR  WPI; 2002-025886/03.
XX
PT  New polynucleotide vaccine for eliciting immune response to an antigen
PT  derived from a pathogen, plant or food, comprises antigen-encoding
PT  nucleic acid sequence derived from non-host species of first phylum or
PT  kingdom.
XX
XX  Example 4; Page 43; 64pp; English.
XX
XX  The invention relates to a polynucleotide vaccine (I) comprising a
XX  nucleic acid sequence encoding an antigen derived from a non-host species
XX  of a first phylum or first kingdom, where the nucleic acid sequence
XX  encoding the antigen is modified by deletion of a native signal sequence,
XX  and/or an immunomodulatory nucleic acid sequence. (I) is useful for
XX  modulating an immune response to an antigen, especially a plant (ragweed
XX  or grass pollen), food, latex, cat dander, cockroach or house dust mite
XX  allergen. (I) is also useful for eliciting an immune response to an
XX  antigen derived from a pathogen, such as bacterium, virus or a parasite.
XX  The vaccine is co-administered with an immunostimulatory nucleotide
XX  sequence which comprises an unmethylated 5'-CG-3' nucleotide sequence.
XX  Antigens of pathogenic parasites include Plasmodium, Leishmania, fungal,
XX  yeast or other pathogens. The present sequence represents
XX  immunostimulatory oligonucleotide (ISS-ODN) #1 which is co-injected with
XX  (I) to amplify the immune response to the co-administered allergen
XX
SQ  Sequence 22 BP; 6 A; 3 C; 7 G; 6 T; 0 U; 0 Other;
XX
Query Match 100.0%; Score 22; DB 6; Length 22;
Best Local Similarity 100.0%; Pred. No. 0.21;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
XX
QY 1 TGACTGTGAACGTTTCGAGATGA 22
DB 1 TGACTGTGAACGTTTCGAGATGA 22
XX
RESULT 28
ABA03833
ID ABA03833 standard; DNA; 22 BP.
XX
XX  ABA03833;
XX
AC  ABA03833;
XX
XX  12-FEB-2002 (first entry)
XX
XX  Immunostimulatory sequence (ISS) SEQ ID NO:1.
XX
DE  Immunostimulatory sequence (ISS) SEQ ID NO:1.
XX
```

```

XX  Immunomodulatory polynucleotide/microcarrier complex; IMP/MC; IgE;
XX  immunomodulation; immunostimulation; phosphorocholate; immunomodulator;
XX  anti-allergic; antibacterial; antiprotocol; antiparasitic; hepatotropic;
XX  nephrotropic; interferon-alpha stimulator; interferon-gamma stimulator;
XX  immunoglobulin E stimulator; immune response; IPF; scleroderma; malaria;
XX  idiopathic pulmonary fibrosis; cutaneous radiation-induced fibrosis;
XX  hepatic fibrosis; renal fibrosis; infectious disease; leishmaniasis;
XX  mycobacterial disease; toxoplasmosis; schistosomiasis; chlonorchiasis;
XX  allergy; allergy-induced asthma; prophylactic vaccine; cancer; ss.
XX
OS  Synthetic.
XX
FH  Key Location/Qualifiers
FT modified_base 1..22
FT FT /*tag= a
FT FT /mod_base= OTHER
FT FT /note= "phosphorocholate linkages"
XX
PN  WO200168144-A2.
XX
PD  20-SEP-2001.
XX
PF  12-MAR-2001; 2001WO-US007848.
XX
PR  10-MAR-2000; 2000US-0188303P.
PR  09-MAR-2001; 2001US-00802359.
XX
XX  (DYNA-) DYNAVAX TECHNOLOGIES CORP.
XX
XX  Van Nest G, Tuck S;
XX
XX  WPI; 2002-049002/06.
XX
XX  New immunomodulatory polynucleotide/microcarrier complex, useful for
XX  modulating the immune response of individuals, particularly humans, or
XX  for treating idiopathic pulmonary fibrosis, scleroderma, malaria or
XX  allergies.
XX
XX  Claim 14; Page 49; 63pp; English.
XX
XX  The present invention describes an immunomodulatory polynucleotide/
XX  microcarrier (IMP/MC) complex (I), which comprises a polynucleotide
XX  having an immunostimulatory sequence (ISS) linked to a biodegradable
XX  microcarrier (MC). The ISS comprises the sequence: 5'-CG-3', where the MC
XX  is less than 10 micro m in size. (I) has immunomodulatory, anti-allergic,
XX  antibacterial, antiprotocol, antiparasitic, hepatotropic and
XX  nephrotropic activities. It can be used as an interferon (IFN)-alpha
XX  stimulator. IFN-gamma stimulator or an immunoglobulin E (IgE) stimulator.
XX  (I) can be used for modulating the immune response of individuals,
XX  particularly humans. The IMP/MC complex is particularly useful for
XX  treating idiopathic pulmonary fibrosis (IPF), scleroderma, cutaneous
XX  radiation-induced fibrosis, hepatic fibrosis including schistosomiasis-
XX  induced hepatic fibrosis, renal fibrosis, infectious diseases caused by
XX  cellular pathogen (e.g. a mycobacterial disease, malaria, leishmaniasis,
XX  toxoplasmosis, schistosomiasis or chlonorchiasis), or disorders
XX  associated with a Th2-type immune response (e.g. allergies or allergy-
XX  induced asthma). The IMP/MC may also be used in individuals receiving
XX  therapeutic or prophylactic vaccines, in individuals suffering from
XX  cancer, or in individuals at risk of exposure to an infectious agent. The
XX  present sequence represents a specifically claimed ISS which can be used
XX  in an IMP/MC complex of the present invention
XX
SQ  Sequence 22 BP; 6 A; 3 C; 7 G; 6 T; 0 U; 0 Other;
XX
Query Match 100.0%; Score 22; DB 6; Length 22;
Best Local Similarity 100.0%; Pred. No. 0.21;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
XX
QY 1 TGACTGTGAACGTTTCGAGATGA 22
DB 1 TGACTGTGAACGTTTCGAGATGA 22
XX
```

```
RESULT 29
ABA03844
ID ABA03844 standard; DNA; 22 BP.
XX
AC ABA03844;
XX
DT 12-FEB-2002 (first entry)
XX
DE Immunostimulatory sequence (ISS) SEQ ID NO:1.
XX
KM Immunostimulatory sequence; ISS; immunostimulation; viral infection;
KW immunomodulation; virucide; gene therapy; viraemia; phosphorothioate; ss.
XX
OS Synthetic.
XX
FH Key Location/Qualifiers
FT modified_base 1..22
FT FT /tag= a
FT FT /mod_base= OTHER
FT FT /note= "phosphorothioate linkages"
XX
PN WO200168077-A2.
XX
PD 20-SEP-2001.
XX
PF 12-MAR-2001; 2001WO-US007840.
XX
PR 10-MAR-2000; 2000US-0188302P.
XX
PR 09-MAR-2001; 2001US-00802685.
XX
PA (DYNA-) DYNAVAX TECHNOLOGIES CORP.
XX
PI Van Nest G;
XX
DR WPI; 2002-048999/06.
XX
PT Reducing severity, recurrence or duration of symptom of virus infection,
PT or reducing viraemia or blood levels of virus antigen, comprises
PT administering a polynucleotide having an immunostimulatory sequence.
XX
PS Claim 4; Page 54; 65pp; English.
XX
CC The present invention describes a method for reducing severity of a
CC symptom of virus infection in an individual infected with a virus. The
CC method comprises administering a composition consisting of a
CC polynucleotide having an immunostimulatory sequence (ISS). The ISS
CC comprises the sequence 5'-C,G,pyrimidine,pyrimidine,C,G-3'. An antigen is
CC administered in conjunction with the composition. ISS has virucide
CC activity and can be used in gene therapy. The method using the ISS can be
CC used for suppressing, ameliorating and/or preventing viral infections to
CC an individual who may be at risk of being exposed to, exposed to or
CC infected by a virus. It may also be used in reducing the recurrence or
CC duration of a symptom of viral infection, delaying the development of a
CC virus infection, and reducing viraemia or blood levels of virus antigens.
CC The present sequence represents a specifically claimed ISS for use in the
CC method of the invention
XX
SQ Sequence 22 BP; 6 A; 3 C; 7 G; 6 T; 0 U; 0 Other;
Query Match 100.0%; Score 22; DB 6; Length 22;
Best Local Similarity 100.0%; Pred. No. 0.21;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
QY 1 TGACTGTGAACGTTGAGATGA 22
| | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | |
DB 1 TGACTGTGAACGTTGAGATGA 22
| | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | |
RESULT 30
AAS16337
ID AAS16337 standard; DNA; 22 BP.
XX
AC AAS16337;
```

```
XX
DT 14-FEB-2002 (first entry)
XX
DE ISS polynucleotide #1 useful for treating herpes virus infections.
XX
KM Herpes simplex virus; HSV infection; immunostimulatory sequence; ISS;
KW immune response; alphaherpesvirinae; herpes virus zoster virus; VZV;
KW HSV-1; HSV-2; chicken pox; herpes labialis; cold sore; genital herpes;
KW virucide; phosphorothioate; ss.
XX
OS Synthetic.
XX
FH Key Location/Qualifiers
FT modified_base 1..22
FT FT /tag= a
FT FT /mod_base= OTHER
FT FT /note= "Optionally phosphorothioate internucleotide
FT linkages"
XX
PN WO200168103-A2.
XX
PD 20-SEP-2001.
XX
PF 12-MAR-2001; 2001WO-US007841.
XX
PR 10-MAR-2000; 2000US-0188556P.
XX
PR 09-MAR-2001; 2001US-00802518.
XX
PA (DYNA-) DYNAVAX TECHNOLOGIES CORP.
XX
PI Van Nest G;
XX
DR WPI; 2002-041171/05.
XX
PT Preventing, reducing the severity or reducing the recurrence of an
PT infection or symptom of herpes simplex virus (HSV), e.g. HSV-2, comprises
PT administering an immunostimulatory sequence to an individual.
XX
PS Claim 5; Page 41; 49pp; English.
XX
CC The present invention relates to novel methods of treating, preventing,
CC or reducing the severity or recurrence of a symptom of herpes simplex
CC virus (HSV) infection in an individual who has been exposed to or who is
CC infected with HSV. The method comprises administering a polynucleotide
CC having an immunostimulatory sequence (ISS; AAS16337-AAS16345) which
CC induces an immune response. A composition containing ISS is administered
CC without a HSV (alphaherpesvirinae) antigen. The composition can be
CC included in a kit for ameliorating or preventing a symptom of HSV
CC infection caused by herpes virus zoster virus (VZV), HSV-1 and
CC particularly HSV-2. Such HSV infections include chicken pox, herpes
CC labialis (cold sores) and genital herpes. The present sequence represents
CC one of the ISS polynucleotides of the invention. Note: The present
CC sequence is shown as single stranded in the specification, but the
CC patents state on page 20 that this sequence may be double stranded
XX
SQ Sequence 22 BP; 6 A; 3 C; 7 G; 6 T; 0 U; 0 Other;
Query Match 100.0%; Score 22; DB 6; Length 22;
Best Local Similarity 100.0%; Pred. No. 0.21;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
QY 1 TGACGTGTAACGTTGAGATGA 22
| | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | |
DB 1 TGACGTGTAACGTTGAGATGA 22
| | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | |
RESULT 31
AAD24885
ID AAD24885 standard; DNA; 22 BP.
XX
AC AAD24885;
XX
DT 12-MAR-2002 (first entry)
```

```
XX Immunostimulatory oligodeoxynucleotide (ISS-ODN) 1.
DE Cell death: DNA damage; DNA-dependent protein kinase; DNA-PK; necrosis;
XX immune response; apoptosis; Alzheimer's disease; Parkinson's disease;
XX rheumatoid arthritis; inflammation; osteoporosis; myocardial infarction;
XX liver disease; reperfusion injury; carcinoma; multiple sclerosis; stroke;
XX amyotrophic lateral sclerosis; Acquired Immune Deficiency Syndrome; AIDS;
XX head injury damage; aplastic anaemia; tumour; organ transplantation;
XX cerebral infarction; follicular lymphomas; systemic lupus erythematosus;
XX viral infection; glomerulonephritis; apoptosis; autoimmune disorder;
XX sepsis; immunostimulatory oligodeoxynucleotide; ISS-ODN; ss.
XX
XX Unidentified.
XX
XX WO200185910-A2.
XX
XX 15-NOV-2001.
XX
XX 04-MAY-2001; 2001WO-US014508.
XX
XX 05-MAY-2000; 2000US-0202274P.
XX
XX 17-JAN-2001; 2001US-0262321P.
XX
XX (REGC ) UNIV CALIFORNIA.
XX
XX Raz E, Lois AF, Takabayashi K;
XX
XX WPI; 2002-062244/08.
XX
XX Modulating cell death or reducing DNA damage in eukaryotic cells, useful
XX for reducing cell death in individual or organ, comprises contacting cell
XX with agent modulating biological activity of DNA-dependent protein
XX kinase.
XX
XX Example 1; Page 29; 57pp; English.
XX
XX The invention relates to a method for modulating cell death or reducing
XX DNA damage in an eukaryotic cell by contacting the cell with an agent
XX that modulates the biological activity of DNA-dependent protein kinase
XX (DNA-PK). The invention also relates to nucleic acids which modulate the
XX immune response binding to Ku antigen, resulting in activation of DNA-PK.
XX The method is useful for modulating cell death or reducing DNA damage in
XX an eukaryotic cell, for treating any disorder resulting from a genotoxic
XX insert to a cell e.g., necrosis, apoptosis. The method is also useful for
XX treating cell death-related indications such as Alzheimer's disease,
XX Parkinson's disease, rheumatoid arthritis, septic shock, sepsis, stroke,
XX central nervous system inflammation, osteoporosis, degenerative liver
XX disease, cerebellar degeneration, reperfusion injury, multiple sclerosis,
XX amyotrophic lateral sclerosis, myocardial infarction, head injury damage,
XX acquired immunodeficiency syndrome (AIDS), aplastic anaemia, cerebral
XX infarction, bypass heart surgery, organ transplantation. The method is
XX also useful for treating follicular lymphomas, carcinomas, autoimmune
XX disorders (systemic lupus erythematosus), hormone dependent tumours,
XX immune mediated glomerulonephritis, apoptosis and viral infections. The
XX present sequence is immunostimulatory oligodeoxynucleotide (ISS-ODN) used
XX for identifying ISS-binding protein, which is used in the exemplification
XX of the invention
XX
XX Sequence 22 BP; 6 A; 3 C; 7 G; 6 T; 0 U; 0 Other;
XX
XX Query Match 100.0%; Score 22; DB 6; Length 22;
XX Best Local Similarity 100.0%; Pred. No. 0.21;
XX Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
XX
XX 1 TGAAGTGAACGTTCCGAGATGA 22
XX |||||||||||||||||||
XX 1 TGAAGTGAACGTTCCGAGATGA 22
XX
XX RESULT 32
XX AAD21877
XX ID AAD21877 standard; DNA; 22 BP.
```

```
XX AAD21877;
AC 12-FEB-2002 (first entry)
XX
XX Immunostimulatory sequence oligonucleotide (ISS-ODN) #1.
XX
XX Cytotoxic T lymphocyte; CTL; T cell; tumour load; cancer radiotherapy;
XX immunostimulatory sequence oligonucleotide; ISS-ODN; chemotherapy;
XX immunosuppression; transplantation; autoimmune disease; infection;
XX acquired immune deficiency syndrome; AIDS; intracellular pathogen;
XX cytomegalovirus; mycobacterial infection; Epstein-Barr virus;
XX varicella zoster virus; human immunodeficiency virus; HIV;
XX phosphorothioate backbone; ss.
XX
XX Unidentified.
XX
XX OS
XX
XX Key Location/Qualifiers
XX modified_base 1..22
XX /*tag= a
XX /mod_base= OTHER
XX /note= "Phosphorothioate backbone"
XX modified_base 1
XX /*tag= b
XX /mod_base= OTHER
XX /note= "Diethylphide thymine"
XX
XX WO200172123-A1.
XX
XX 04-OCT-2001.
XX
XX 28-MAR-2001; 2001WO-US010118.
XX
XX 28-MAR-2000; 2000US-0192537P.
XX
XX 11-MAY-2000; 2000US-0203567P.
XX
XX 05-JUL-2000; 2000US-0215895P.
XX
XX (REGC ) UNIV CALIFORNIA.
XX (VETE-) DEPT VETERANS AFFAIRS.
XX
XX Raz E, Cho HJ, Richman DD, Horner AA;
XX
XX WPI; 2002-010699/01.
XX
XX Increasing antigen-specific cytotoxic T lymphocyte activity in a CD4+ T
XX cell deficient individual, useful to treat immunodeficiency and block HIV
XX infection, comprises administering immunostimulatory nucleic acid.
XX
XX Example 1; Page 44; 91pp; English.
XX
XX The present invention relates to a method for increasing antigen-specific
XX cytotoxic T lymphocyte (CTL) activity in a CD4+ T cell-deficient
XX individual, comprising administering an immunostimulatory sequence
XX oligonucleotide (ISS-ODN). The immunostimulatory nucleic acids of the
XX invention are used in CD4+ T cell-deficient individuals to decrease
XX tumour load, to treat a primary or acquired immunodeficiency,
XX particularly where the acquired immunodeficiency is temporary and due to
XX cancer radiotherapy or chemotherapy or immunosuppression following bone
XX marrow or organ transplantation, or autoimmune disease treatment, or is
XX to treat a person at risk of becoming CD4+ T cell-deficient, particularly
XX where someone at risk of cancer recurrence. They are also used to treat
XX infection, particularly by an intracellular pathogen, especially one
XX caused by cytomegalovirus, Mycobacterium tuberculosis, M. avium, Epstein-
XX Barr virus, a fungus yeast, varicella zoster virus or human
XX immunodeficiency virus (HIV). The present sequence is a 5' dsulfide-
XX linked phosphorothioate immunostimulatory sequence oligonucleotide (ISS-
XX ODN), used in the exemplification of the invention
XX
XX Sequence 22 BP; 6 A; 3 C; 7 G; 6 T; 0 U; 0 Other;
XX
XX Query Match 100.0%; Score 22; DB 6; Length 22;
XX Best Local Similarity 100.0%; Pred. No. 0.21;
```

Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 TGAAGTGAACGTTGAGATGA 22
| | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | |
Db 1 TGAAGTGAACGTTGAGATGA 22

RESULT 33

ABQ75259
ID ABQ75259 standard; DNA; 22 BP.

XX ABQ75259;

XX 05-NOV-2002 (first entry)

DE ISS immunomodulatory positive control oligonucleotide SEQ ID NO:59.

XX Immunostimulatory sequence; ISS: immunomodulatory; immune response;
XX allergy; asthma; infectious disease; interferon-gamma; IFN-gamma;
XX idiopathic pulmonary fibrosis; viral infection; mycobacterial disease;
XX malaria; leishmaniasis; toxoplasmosis; schistosomiasis; clonorchiasis;
XX immunoglobulin E; IGE-related disorder; anti-allergic; antiasthmatic;
XX virucide; antibacterial; protozoacide; ss.

OS Synthetic.

XX WO200252002-A2.

XX 04-JUL-2002.

XX 27-DEC-2001; 2001WO-US050821.

XX 27-DEC-2000; 2000US-0258675P.

XX (DYNA-) DYNAVAX TECHNOLOGIES CORP.

XX Fearon KL, Dina D;

XX MPI; 2002-657426/70.

PT Immunomodulatory polynucleotide for modulating an immune response in a
PT subject suffering from disorders associated with Th2-type immune
PT response, e.g. allergy, or infectious disease, comprises an
PT immunostimulatory sequence.

XX Example 1; Page 71; 95pp; English.

XX The present invention describes an immunomodulatory polynucleotide (I)
XX comprising an immunostimulatory sequence (ISS). Also described: (1) an
XX immunomodulatory composition comprising (1); (2) an immunomodulatory
XX polynucleotide/microcarrier (IMP/MC) complex, comprising (1) linked to a
XX biodegradable MC, where the MC is less than 10 micrometre in size; and
XX (3) a kit comprising (1). (1) has anti-allergic, antiasthmatic, virucide,
XX antibacterial and protozoacide activities, and can be used as a modulator
XX of immune response. (1) is useful for modulating an immune response in an
XX individual suffering from disorders associated with a Th2-type immune
XX response, especially an allergy or asthma, or an infectious disease. (1)
XX is also useful for increasing interferon-gamma (IFN-gamma) in an
XX individual having idiopathic pulmonary fibrosis, or IFN-alpha in an
XX individual having a viral infection. (1) is further useful for
XX ameliorating a symptom of an infectious disease caused by a cellular
XX pathogen such as mycobacterial disease, malaria, leishmaniasis,
XX toxoplasmosis, schistosomiasis and clonorchiasis in an individual, or a
XX symptom of an immunoglobulin E (IGE)-related disorder, preferably an
XX allergy-related disorder, in particular asthma in an individual. The
XX present sequence represents an immunomodulatory related oligonucleotide
XX which was used in an example from the present invention

SO Sequence 22 BP; 6 A; 3 C; 7 G; 6 T; 0 U; 0 Other;

Query Match 100.0%; Score 22; DB 6; Length 22;

Best Local Similarity 100.0%; Pred. No. 0.21;

Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 TGAAGTGAACGTTGAGATGA 22
| | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | |
Db 1 TGAAGTGAACGTTGAGATGA 22

RESULT 34

ABQ75153
ID ABQ75153 standard; DNA; 22 BP.

XX ABQ75153;

XX 05-NOV-2002 (first entry)

DE ISS immunomodulatory oligonucleotide SEQ ID NO:2.

XX Immunostimulatory sequence; ISS: immunomodulatory; immune response;
XX allergy; asthma; infectious disease; interferon-gamma; IFN-gamma;
XX idiopathic pulmonary fibrosis; viral infection; mycobacterial disease;
XX malaria; leishmaniasis; toxoplasmosis; schistosomiasis; clonorchiasis;
XX immunoglobulin E; IGE-related disorder; anti-allergic; antiasthmatic;
XX virucide; antibacterial; protozoacide; ss.

OS Synthetic.

XX Key Location/Qualifiers

XX FT misc_RNA 13

XX FT /tag= a

XX FT /note= "uracil"

XX WO200252002-A2.

XX 04-JUL-2002.

XX 27-DEC-2001; 2001WO-US050821.

XX 27-DEC-2000; 2000US-0258675P.

XX (DYNA-) DYNAVAX TECHNOLOGIES CORP.

XX Fearon KL, Dina D;

XX MPI; 2002-657426/70.

PT Immunomodulatory polynucleotide for modulating an immune response in a
PT subject suffering from disorders associated with Th2-type immune
PT response, e.g. allergy, or infectious disease, comprises an
PT immunostimulatory sequence.

XX Claim 4; Page 20; 95pp; English.

XX The present invention describes an immunomodulatory polynucleotide (I)
XX comprising an immunostimulatory sequence (ISS). Also described: (1) an
XX immunomodulatory composition comprising (1); (2) an immunomodulatory
XX polynucleotide/microcarrier (IMP/MC) complex, comprising (1) linked to a
XX biodegradable MC, where the MC is less than 10 micrometre in size; and
XX (3) a kit comprising (1). (1) has anti-allergic, antiasthmatic, virucide,
XX antibacterial and protozoacide activities, and can be used as a modulator
XX of immune response. (1) is useful for modulating an immune response in an
XX individual suffering from disorders associated with a Th2-type immune
XX response, especially an allergy or asthma, or an infectious disease. (1)
XX is also useful for increasing interferon-gamma (IFN-gamma) in an
XX individual having idiopathic pulmonary fibrosis, or IFN-alpha in an
XX individual having a viral infection. (1) is further useful for
XX ameliorating a symptom of an infectious disease caused by a cellular
XX pathogen such as mycobacterial disease, malaria, leishmaniasis,
XX toxoplasmosis, schistosomiasis and clonorchiasis in an individual, or a
XX symptom of an immunoglobulin E (IGE)-related disorder, preferably an
XX allergy-related disorder, in particular asthma in an individual. The
XX present sequence represents an immunomodulatory oligonucleotide which is
XX specifically claimed in the present invention

SO Sequence 22 BP; 6 A; 3 C; 7 G; 5 T; 1 U; 0 Other;

Query Match 100.0%; Score 22; DB 6; Length 22;
Best Local Similarity 100.0%; Pred. No. 0.21;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 TGACTGTGAACGTTGAGATGA 22
DB 1 TGACTGTGAACGTTGAGATGA 22

RESULT 37

AA516348
ID AA516348 standard; DNA; 22 BP.

AC AA516348;

DT 14-FEB-2002 (first entry)

DE ISS polynucleotide #1 useful for treating papillomavirus infections.

KW Animal papillomavirus infection; human papillomavirus; HPV; STD; wart;

KM sexually transmitted disease; cervical cancer; immune response;

OS Synthetic.

FT Key Location/Qualifiers
modified_base 1..22
/tag= a
/mod_base= OTHER

FT /note= "Optionally phosphorothioate linkages"

PD WO200168117-A2.

PD 20-SEP-2001.

PF 12-MAR-2001; 2001WO-US007842.

PR 10-MAR-2000; 2000US-0188265P.

PR 09-MAR-2001; 2001US-00802445.

PA (DYNA-) DYNAVAX TECHNOLOGIES CORP.

PI Van Nest G;

DR WPI; 2002-041172/05.

PT Treating, preventing or ameliorating papillomavirus infections, comprises administering a composition comprising a polynucleotide having an immunostimulatory sequence to the individual.

PS Claim 4; Page 39; 44pp; English.

XX The present invention relates to novel methods of treating, preventing, or reducing the severity or recurrence of a symptom of papillomavirus infection in an individual that has been exposed to or who is infected with papillomavirus. The method comprises administering a polynucleotide having an immunostimulatory sequence (ISS; AA516348-AA516355) which induces an immune response. A composition containing ISS is administered without a papillomavirus antigen. The composition can be included in a kit for ameliorating or preventing a symptom of human or animal papillomavirus infection. Infections with human papillomavirus (HPV) which can be prevented or treated using the method of the invention include sexually transmitted diseases (STDs), warts, papillomas and cervical cancer. The present sequence represents one of the ISS polynucleotides of the invention. Note: The present sequence is shown as single stranded in the specification, but the patentees state on page 20 that this sequence may be double stranded

SQ Sequence 22 BP; 6 A; 3 C; 7 G; 6 T; 0 U; 0 Other;

Query Match 100.0%; Score 22; DB 6; Length 22;
Best Local Similarity 100.0%; Pred. No. 0.21;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 TGACTGTGAACGTTGAGATGA 22
DB 1 TGACTGTGAACGTTGAGATGA 22

RESULT 38

AA144504
ID AA144504 standard; DNA; 22 BP.

AC AA144504;

DT 08-NOV-2002 (first entry)

DE Cpg motif oligonucleotide #12.

KW Vaccine; immune response; microparticle; ds; adsorbent surface;

KM poly(alpha-hydroxy acid); poly(hydroxy butyric acid); polycaprolactone;

KW polyorthoester; polycyanacrylate; detergent; submicron emulsion;

KM viral infection; bacterial infection; parasitic infection;

OS Cpg oligonucleotide.

XX Unidentified.

XX WO200226209-A2.

XX 04-APR-2002.

PF 28-SEP-2001; 2001WO-US030540.

PR 28-SEP-2000; 2000US-0236105P.

PR 30-AUG-2001; 2001US-0315905P.

XX (CHTR) CHIRON CORP.

PA O'hagan D, O'ten G, Donnelly JJ, Polo JM, Barnett S, Singh M;

PI Ulmer J, Dubensky TW;

DR WPI; 2002-519084/55.

PS Disclosure; Page 46; 100pp; English.

XX The invention relates to a method of raising an immune response in a host animal. The method of the invention comprises administering a microparticle that has an adsorbent surface to which a first biologically active macromolecule (e.g. a nucleic acid) has been adsorbed. The microparticle comprises a polymer microparticle of poly(alpha-hydroxy acid), a poly(hydroxy butyric acid), a polycaprolactone, a polyorthoester, a polycyanacrylate, a detergent, and submicron emulsion. The method/ microparticle of the invention is useful for immunising a host animal against viral, bacterial or parasitic infections. The present DNA sequence represents a Cpg oligonucleotide of the invention

SQ Sequence 22 BP; 6 A; 3 C; 7 G; 6 T; 0 U; 0 Other;

Query Match 100.0%; Score 22; DB 6; Length 22;
Best Local Similarity 100.0%; Pred. No. 0.21;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 TGACTGTGAACGTTGAGATGA 22
DB 1 TGACTGTGAACGTTGAGATGA 22

RESULT 39

ABAO3856
ID ABAO3856 standard; DNA; 22 BP.

XX

```
AC ABA03856;
XX
XX 12-FEB-2002 (first entry)
XX
DE Immunostimulatory sequence (ISS) SEQ ID NO:1.
XX
XX Immunostimulatory sequence; ISS; immunomodulation; HBV; HCV; infection;
XX hepatitis B virus; hepatitis C virus; virucide; anti-inflammatory;
XX hepatotropic; gene therapy; hepatitis infection; viraemia; jaundice;
XX fatigue; abdominal pain; portal hypertension; cirrhosis;
XX phosphorothioate; ss.
XX
OS Synthetic.
XX
XX Key Location/Qualifiers
XX modified_base 1..22
XX FT /tag= a
XX FT /mod_base= OTHER
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XX 20-SEP-2001.
XX
XX 12-MAR-2001; 2001WO-US007931.
XX
XX 10-MAR-2000; 2000US-0188301P.
XX 09-MAR-2001; 2001US-00802370.
XX
XX (DYNA-) DYNAMAX TECHNOLOGIES CORP.
XX
XX Van Nest G;
XX
XX MPI; 2002-049000/06.
XX
XX Reducing viremia and blood levels of hepatitis virus antigen in an
XX individual infected with hepatitis B virus, comprises administering a
XX composition comprising a polynucleotide having an immunostimulatory
XX sequence.
XX
XX Claim 5; Page 38; 43pp; English.
XX
XX The present invention describes a method for reducing viraemia or blood
XX levels of a hepatitis virus antigen in an individual infected with
XX hepatitis B virus (HBV). The method comprises administering a composition
XX comprising a polynucleotide having an immunostimulatory sequence (ISS) to
XX the individual, where the ISS comprises the sequence 5'-C'-G-3', an HBV
XX antigen is not administered in conjunction with administration of the
XX composition, and where the composition is administered in an amount
XX sufficient to reduce HBV viraemia or blood levels of a hepatitis virus
XX antigen. ISS has virucide, anti-inflammatory and hepatotropic activities,
XX and can be used in gene therapy. The method can be used for suppressing
XX and/or ameliorating hepatitis infection in an individual, especially for
XX preventing, palliating, ameliorating, reducing and/or eliminating one or
XX more symptoms of HBV or HCV (hepatitis C virus) infection without
XX administering HBV or HCV antigens. The method is specifically useful for
XX reducing viraemia and hepatitis viral antigen in blood. ISS-containing
XX polynucleotides may also be used to improve physical symptoms such as
XX jaundice, fatigue, abdominal pain, and other clinical/laboratory
XX findings associated with hepatitis such as blood levels of liver enzymes,
XX portal hypertension, or cirrhosis. The present sequence represents a
XX specifically claimed ISS oligonucleotide for use in the method of the
XX invention
XX
XX Sequence 22 BP; 6 A; 3 C; 7 G; 6 T; 0 U; 0 Other;
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XX Query Match 100.0%; Score 22; DB 6; Length 22;
XX Best Local Similarity 100.0%; Pred. No. 0.21;
XX Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
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RESULT 40
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XX
XX AB257964;
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XX 14-APR-2003 (first entry)
XX
XX Immunostimulatory oligodeoxynucleotide ISS-ODN 1018.
XX
XX ISS-ODN 1018; immunostimulant; vaccine; adjuvant; phosphorothioate;
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XX 25-JUN-2001; 2001US-0300072P.
XX 17-DEC-2001; 2001US-0339785P.
XX
XX (YISSU) YISSUM RES DEV CO HEBREW UNIV JERUSALEM.
XX (REGC ) UNIV CALIFORNIA.
XX
XX Barenholz Y, Kedari E, Louria-Hayon Y, Joseph A, Raz E;
XX Takabayashi K;
XX MPI; 2003-201371/19.
XX
XX Loading immunostimulatory oligodeoxynucleotides (ISS-ODNs) in liposomes
XX useful for stimulating an immune response comprises solubilizing at least
XX one liposome-forming lipid in a solvent and drying or freeze-drying the
XX solution.
XX
XX Example; Page 19; 68pp; English.
XX
XX The present sequence is that of phosphorothioate immunostimulatory
XX oligodeoxynucleotide (ISS-ODN) 1018. The invention provides a novel, fast
XX and simple method of preparing liposomes efficiently loaded (i.e. at
XX least 60% loading) with ISS-ODN. The method is based on drying a
XX suspension of amphipathic material and then hydrating it with an aqueous
XX solution containing the ISS-ODN, thereby entrapping it in liposomes
XX formed from the lipid. The ISS-ODN is preferably an endotoxin-free ISS-
XX ODN with a phosphorothioate or phosphodiester backbone. Liposomal ISS-ODN
XX can be used e.g. as a vaccine adjuvant against pathogens and cancer. In
XX the treatment or prevention of diseases caused by certain infectious
XX microorganisms, in the treatment or prevention of allergic diseases, or
XX to boost innate immunity. In examples of the invention, ISS-ODN 1018 was
XX encapsulated in large multilamellar liposomes with up to 95% efficiency.
XX The liposomal formulation was a considerably more potent parenteral
XX adjuvant in mice than the soluble form of ISS-ODN, as shown in
XX experiments with an influenza vaccine. Enhancement of the systemic
XX humoral and cellular response was demonstrated by liposomal ISS-ODN 1018
XX co-administered with hepatitis B vaccine, and of the systemic humoral
XX response when administered with tuberculosis vaccine. Liposomal ISS-ODN
XX 1018 was also used as a adjuvant for a cancer (murine mammary carcinoma)
XX vaccine, and activated resistance to leishmaniasis when administered
XX after infection
XX
XX Sequence 22 BP; 6 A; 3 C; 7 G; 6 T; 0 U; 0 Other;
XX
XX Query Match 100.0%; Score 22; DB 8; Length 22;
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Best Local Similarity 100.0%; Pred. No. 0.21;
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OM nucleic - nucleic search, using sw model

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Listing first 100 summaries

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6	22	100.0	22	4	US-09-296-477-2	Sequence 2, Appl
7	22	100.0	22	4	US-09-308-036A-1	Sequence 1, Appl
8	22	100.0	22	4	US-09-791-500-1	Sequence 1, Appl
9	22	100.0	22	4	US-09-565-906-2	Sequence 2, Appl
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13	20.4	92.7	22	4	US-09-820-484-6	Sequence 6, Appl
14	20.4	92.7	22	4	US-09-774-403A-2	Sequence 1, Appl
15	20.4	92.7	22	4	US-09-296-477-1	Sequence 1, Appl
16	20.4	92.7	22	4	US-09-296-477-5	Sequence 5, Appl
17	20.4	92.7	22	4	US-09-296-477-6	Sequence 6, Appl
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19	20.4	92.7	22	4	US-09-791-500-5	Sequence 5, Appl
20	20.4	92.7	22	4	US-09-791-500-6	Sequence 6, Appl
21	20	90.9	22	4	US-09-296-477-16	Sequence 16, Appl
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C 144	12.2	55.5	29 4	US-09-879-919-10	Sequence 10, Appl	C 217	11.8	53.6	77 2	US-08-233-012C-36	Sequence 36, Appl
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C 149	12.2	55.5	51 4	US-09-443-199C-99	Sequence 99, Appl	C 222	11.6	52.7	19 4	US-09-696-791-1526	Sequence 1526, Ap
C 150	12.2	55.5	51 4	US-09-443-199C-101	Sequence 101, App	C 223	11.6	52.7	21 4	US-08-729-955A-29	Sequence 29, Ap
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C 152	12.2	55.5	87 3	US-08-976-413A-335	Sequence 325, App	C 225	11.6	52.7	27 3	US-08-686-993A-6	Sequence 6, Appl1
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C 154	12.2	55.5	93 1	US-08-210-222-35	Sequence 35, Appl	C 227	11.6	52.7	28 3	US-09-124-141-28	Sequence 28, Appl
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C 156	12.2	55.5	97 5	PCT-US94-06456-26	Sequence 26, Appl	C 229	11.6	52.7	34 3	US-09-023-221A-12	Sequence 12, Appl
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C 171	12.2	54.5	43 2	US-08-701-339-12	Sequence 12, Appl	C 244	11.6	52.7	51 1	US-07-972-032-22	Sequence 22, Appl
C 172	12.2	54.5	53 4	US-09-746-359A-31	Sequence 31, Appl	C 245	11.6	52.7	51 1	US-08-175-155-55	Sequence 55, Appl
C 173	12.2	54.5	55 4	US-09-513-999C-15133	Sequence 15133, A	C 246	11.6	52.7	51 1	US-08-477-509B-90	Sequence 90, Appl

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249	11.6	52.7	51	3	US-09-444-791A-90	Sequence 90, Appl	322	11.4	51.8	59	2	US-08-561-521-28	Sequence 28, Appl
250	11.6	52.7	54	2	US-08-841-178-3	Sequence 3, Appl1	323	11.4	51.8	59	5	PCT-US95-01219-28	Sequence 28, Appl
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252	11.6	52.7	75	1	US-08-009-265-42	Sequence 42, Appl	325	11.4	51.8	62	4	US-09-270-767-29461	Sequence 29461, A
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256	11.6	52.7	75	2	US-08-686-993A-22	Sequence 22, Appl	329	11.4	51.8	75	4	US-09-792-024-366	Sequence 366, App
257	11.6	52.7	75	5	PCT-US95-05600-127	Sequence 127, App	330	11.4	51.8	75	4	US-08-399-412A-20	Sequence 366, App
258	11.6	52.7	76	1	US-08-447-169A-111	Sequence 111, App	331	11.4	51.8	76	1	US-08-399-412A-21	Sequence 20, Appl
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260	11.6	52.7	76	4	US-09-660-474-111	Sequence 111, App	333	11.4	51.8	76	1	US-08-399-412A-25	Sequence 22, Appl
261	11.6	52.7	77	3	US-09-364-539-101	Sequence 101, App	334	11.4	51.8	76	1	US-08-399-412A-31	Sequence 25, Appl
262	11.6	52.7	83	3	US-08-704-856C-14	Sequence 14, Appl	335	11.4	51.8	76	1	US-08-399-412A-26	Sequence 26, Appl
263	11.6	52.7	83	4	US-09-242-881-14	Sequence 14, Appl	336	11.4	51.8	76	1	US-08-399-412A-27	Sequence 27, Appl
264	11.6	52.7	90	1	US-08-631-200-46	Sequence 14, Appl	337	11.4	51.8	76	1	US-08-399-412A-28	Sequence 28, Appl
265	11.6	52.7	90	1	US-08-829-553-46	Sequence 46, Appl	338	11.4	51.8	76	1	US-08-399-412A-30	Sequence 30, Appl
266	11.6	52.7	90	2	US-08-922-267A-46	Sequence 46, Appl	339	11.4	51.8	76	1	US-08-447-169A-31	Sequence 31, Appl
267	11.6	52.7	90	2	US-08-936-707A-46	Sequence 46, Appl	340	11.4	51.8	76	1	US-08-447-169A-112	Sequence 112, App
268	11.6	52.7	90	2	US-08-936-706A-46	Sequence 46, Appl	341	11.4	51.8	76	2	US-08-233-012C-11	Sequence 31, Appl
269	11.6	52.7	90	3	US-09-248-203-46	Sequence 46, Appl	342	11.4	51.8	76	2	US-08-233-012C-112	Sequence 112, App
270	11.6	52.7	90	3	US-09-406-071-46	Sequence 46, Appl	343	11.4	51.8	76	4	US-09-860-474-31	Sequence 31, Appl
271	11.6	52.7	90	4	US-09-814-986-46	Sequence 46, Appl	344	11.4	51.8	76	4	US-09-860-474-112	Sequence 112, App
272	11.6	52.7	96	4	US-09-759-112A-16	Sequence 16, Appl	345	11.4	51.8	77	1	US-08-400-440A-9	Sequence 9, Appl1
273	11.6	52.7	97	1	US-08-210-222-12	Sequence 12, Appl	346	11.4	51.8	77	1	US-08-463-039A-9	Sequence 9, Appl1
274	11.6	52.7	97	5	PCT-US92-06821A-21	Sequence 21, Appl	347	11.4	51.8	77	1	US-08-447-169A-22	Sequence 22, Appl
275	11.6	52.7	98	1	US-08-210-222-21	Sequence 21, Appl	348	11.4	51.8	77	1	US-08-447-169A-23	Sequence 32, Appl
276	11.6	52.7	98	1	PCT-US94-08456-25	Sequence 25, Appl	349	11.4	51.8	77	2	US-08-233-012C-22	Sequence 22, Appl
277	11.6	52.7	98	5	PCT-US94-06456-54	Sequence 54, Appl	350	11.4	51.8	77	2	US-08-233-012C-39	Sequence 39, Appl
278	11.6	52.7	99	5	US-08-630-592-24	Sequence 24, Appl	351	11.4	51.8	77	2	US-08-460-888A-9	Sequence 9, Appl1
279	11.6	52.7	99	1	US-08-714-991-24	Sequence 24, Appl	352	11.4	51.8	77	2	US-08-477-527A-212	Sequence 212, App
280	11.4	51.8	20	4	US-08-754-477A-62	Sequence 62, Appl	353	11.4	51.8	77	2	US-08-477-527A-239	Sequence 239, App
281	11.4	51.8	24	3	US-09-468-872-35	Sequence 35, Appl	354	11.4	51.8	77	2	US-08-894-578-9	Sequence 9, Appl1
282	11.4	51.8	26	2	US-08-450-905B-161	Sequence 161, App	355	11.4	51.8	77	3	US-08-481-710-212	Sequence 212, App
283	11.4	51.8	26	3	US-07-982-759F-161	Sequence 161, App	356	11.4	51.8	77	3	US-08-481-710-239	Sequence 239, App
284	11.4	51.8	27	1	US-08-977-818-7	Sequence 7, Appl1	357	11.4	51.8	77	3	US-09-412-017-9	Sequence 9, Appl1
285	11.4	51.8	27	1	US-08-977-818-8	Sequence 8, Appl1	358	11.4	51.8	77	4	US-09-578-634A-29	Sequence 29, Appl
286	11.4	51.8	27	2	US-08-670-274B-7	Sequence 7, Appl1	359	11.4	51.8	77	4	US-09-860-474-22	Sequence 22, Appl
287	11.4	51.8	27	2	US-08-670-274B-8	Sequence 8, Appl1	360	11.4	51.8	77	4	US-09-860-474-39	Sequence 39, Appl
288	11.4	51.8	27	3	US-09-146-187-7	Sequence 7, Appl1	361	11.4	51.8	77	5	PCT-US96-09537-212	Sequence 212, App
289	11.4	51.8	27	3	US-09-146-187-8	Sequence 8, Appl1	362	11.4	51.8	77	5	PCT-US96-09537-239	Sequence 239, App
290	11.4	51.8	27	4	US-09-930-803-4	Sequence 4, Appl1	363	11.4	51.8	79	4	US-09-513-999C-23791	Sequence 23791, A
291	11.4	51.8	30	3	US-09-270-542-169	Sequence 169, App	364	11.4	51.8	85	4	US-09-612-31A-3	Sequence 3, Appl1
292	11.4	51.8	30	3	US-09-270-542-170	Sequence 170, App	365	11.4	51.8	85	4	US-09-612-31A-4	Sequence 4, Appl1
293	11.4	51.8	31	3	US-09-043-239-13	Sequence 13, Appl	366	11.4	51.8	87	2	US-08-566-216-3	Sequence 3, Appl1
294	11.4	51.8	31	4	US-09-230-405-16	Sequence 13, Appl	367	11.4	51.8	87	2	US-08-477-527A-177	Sequence 177, App
295	11.4	51.8	31	4	US-09-495-901-13	Sequence 13, Appl	368	11.4	51.8	87	3	US-08-481-710-117	Sequence 177, App
296	11.4	51.8	32	3	US-08-938-835A-62	Sequence 62, Appl	369	11.4	51.8	87	5	PCT-US96-09537-177	Sequence 177, App
297	11.4	51.8	34	1	US-08-640-378A-20	Sequence 20, Appl	370	11.4	51.8	90	4	US-09-578-634A-7	Sequence 7, Appl
298	11.4	51.8	35	1	US-08-403-762A-159	Sequence 159, App	371	11.4	51.8	91	4	US-09-578-634A-6	Sequence 6, Appl1
299	11.4	51.8	36	1	US-07-640-029-11	Sequence 11, Appl	372	11.4	51.8	91	4	US-09-578-634A-8	Sequence 8, Appl1
300	11.4	51.8	36	1	US-07-921-807B-17	Sequence 11, Appl	373	11.4	51.8	99	4	US-09-270-767-25925	Sequence 25925, A
301	11.4	51.8	36	3	US-08-441-944A-17	Sequence 17, Appl	374	11.2	50.9	16	5	PCT-US94-06456-60	Sequence 60, Appl
302	11.4	51.8	36	3	US-08-491-954-52	Sequence 52, Appl	375	11.2	50.9	17	4	US-09-827-998-92	Sequence 92, Appl
303	11.4	51.8	36	3	US-08-439-992A-11	Sequence 11, Appl	376	11.2	50.9	19	6	US-09-827-998-94	Sequence 94, Appl
304	11.4	51.8	37	4	US-09-574-873-5	Sequence 5, Appl1	377	11.2	50.9	17	6	5510474-12	Patent No. 5510474
305	11.4	51.8	38	2	US-08-836-222-5	Sequence 5, Appl1	378	11.2	50.9	20	4	US-09-198-452A-4689	Sequence 4689, Ap
306	11.4	51.8	39	1	US-08-292-892-1	Sequence 1, Appl1	379	11.2	50.9	22	1	US-08-242-403A-38	Sequence 38, Appl
307	11.4	51.8	39	1	US-08-459-890-1	Sequence 1, Appl1	380	11.2	50.9	22	1	US-08-774-128-38	Sequence 38, Appl
308	11.4	51.8	39	3	US-08-214-994-1	Sequence 1, Appl1	381	11.2	50.9	22	5	PCT-US95-05602-38	Sequence 38, Appl
309	11.4	51.8	39	3	US-09-039-021-1	Sequence 1, Appl1	382	11.2	50.9	22	5	PCT-US95-05816-38	Sequence 38, Appl
310	11.4	51.8	39	5	PCT-US93-01338-1	Sequence 1, Appl1	383	11.2	50.9	23	4	US-09-404-641-82	Sequence 82, Appl
311	11.4	51.8	42	4	US-08-399-412A-103	Sequence 103, App	384	11.2	50.9	23	4	US-10-414-168-82	Sequence 82, Appl
312	11.4	51.8	43	4	US-09-916-228-23	Sequence 23, Appl	385	11.2	50.9	24	2	US-08-702-105A-36	Sequence 36, Appl
313	11.4	51.8	48	1	US-08-399-412A-105	Sequence 105, App	386	11.2	50.9	24	3	US-08-702-110A-36	Sequence 36, Appl
314	11.4	51.8	48	1	US-08-264-861A-6	Sequence 6, Appl1	387	11.2	50.9	24	3	US-09-325-571-36	Sequence 36, Appl
315	11.4	51.8	48	5	PCT-US95-07784-6	Sequence 6, Appl1	388	11.2	50.9	24	4	US-09-848-588-36	Sequence 36, Appl
316	11.4	51.8	50	4	US-09-702-029-5	Sequence 5, Appl1	389	11.2	50.9	25	1	US-08-419-009-43	Sequence 43, Appl
317	11.4	51.8	55	1	US-08-243-870-16	Sequence 16, Appl	390	11.2	50.9	25	3	US-08-938-548B-20	Sequence 20, Appl
318	11.4	51.8	55	1	US-08-409-439A-16	Sequence 16, Appl	391	11.2	50.9	25	3	US-09-177-349-6	Sequence 40, Appl
319	11.4	51.8	55	4	US-09-270-767-29014	Sequence 29014, A	392	11.2	50.9	25	3	US-08-939-095A-20	Sequence 20, Appl

393	11.2	50.9	25	4	US-09-178-098A-1	Sequence 1, Appl1	466	11.2	50.9	38	1	US-08-467-607-19	Sequence 19, Appl
394	11.2	50.9	25	4	US-09-230-378A-3	Sequence 3, Appl1	467	11.2	50.9	38	1	US-08-338-057-7	Sequence 7, Appl1
395	11.2	50.9	25	4	US-09-827-998-907	Sequence 907, App	468	11.2	50.9	38	1	US-08-484-570A-7	Sequence 7, Appl1
396	11.2	50.9	25	4	US-09-827-998-917	Sequence 917, App	469	11.2	50.9	38	1	US-08-508-448C-13	Sequence 13, Appl
397	11.2	50.9	25	4	US-09-211-823C-20	Sequence 20, Appl	470	11.2	50.9	38	1	US-08-605-672-44	Sequence 44, Appl
398	11.2	50.9	25	4	US-09-737-379A-20	Sequence 20, Appl	471	11.2	50.9	38	1	US-08-444-773-134	Sequence 134, App
399	11.2	50.9	25	4	US-09-043-861-12	Sequence 12, Appl	472	11.2	50.9	38	2	US-08-482-293A-44	Sequence 44, Appl
400	11.2	50.9	25	5	PCT-US95-04567-19	Sequence 19, Appl	473	11.2	50.9	38	2	US-08-943-363-44	Sequence 44, Appl
401	11.2	50.9	27	1	US-08-222-124-8	Sequence 8, Appl1	474	11.2	50.9	38	2	US-08-668-416-7	Sequence 7, Appl1
402	11.2	50.9	27	2	US-08-842-657A-8	Sequence 8, Appl1	475	11.2	50.9	38	2	US-08-464-134-134	Sequence 134, App
403	11.2	50.9	28	3	US-08-938-548B-19	Sequence 19, Appl	476	11.2	50.9	38	2	US-08-469-362-13	Sequence 13, App
404	11.2	50.9	28	3	US-08-939-093A-19	Sequence 19, Appl	477	11.2	50.9	38	2	US-08-203-532F-12	Sequence 12, Appl
405	11.2	50.9	28	4	US-09-211-823C-19	Sequence 19, Appl	478	11.2	50.9	38	2	US-08-461-361-134	Sequence 134, App
406	11.2	50.9	28	4	US-09-737-379A-19	Sequence 19, Appl	479	11.2	50.9	38	2	US-08-715-568A-12	Sequence 12, Appl
407	11.2	50.9	30	1	US-08-640-378-5	Sequence 5, Appl1	480	11.2	50.9	38	2	US-08-850-392-19	Sequence 19, Appl
408	11.2	50.9	30	1	US-09-986-121-2	Sequence 2, Appl1	481	11.2	50.9	38	2	US-08-485-910-134	Sequence 134, App
409	11.2	50.9	31	4	US-09-043-861-9	Sequence 9, Appl1	482	11.2	50.9	38	2	US-08-933-149-10	Sequence 10, Appl
410	11.2	50.9	32	2	US-08-787-902A-7	Sequence 7, Appl1	483	11.2	50.9	38	2	US-09-082-343-10	Sequence 10, Appl
411	11.2	50.9	32	3	US-08-829-525-27	Sequence 27, Appl	484	11.2	50.9	38	3	US-09-082-253-10	Sequence 10, Appl
412	11.2	50.9	32	3	US-08-609-583A-27	Sequence 27, Appl	485	11.2	50.9	38	3	US-09-090-947-6	Sequence 6, Appl1
413	11.2	50.9	32	3	US-09-177-349-7	Sequence 7, Appl1	486	11.2	50.9	38	3	US-08-918-190-3	Sequence 3, Appl1
414	11.2	50.9	32	3	US-08-937-399-27	Sequence 27, Appl	487	11.2	50.9	38	3	US-09-234-232-3	Sequence 3, Appl1
415	11.2	50.9	32	4	US-09-310-367-27	Sequence 27, Appl	488	11.2	50.9	38	3	US-09-193-043-44	Sequence 44, Appl
416	11.2	50.9	32	4	US-09-032-337-27	Sequence 27, Appl	489	11.2	50.9	38	3	US-09-078-465-12	Sequence 12, Appl
417	11.2	50.9	32	4	US-09-178-098A-2	Sequence 27, Appl	490	11.2	50.9	38	4	US-09-688-307A-44	Sequence 44, Appl
418	11.2	50.9	32	4	US-09-664-231-27	Sequence 27, Appl	491	11.2	50.9	38	4	US-09-162-622-10	Sequence 10, Appl
419	11.2	50.9	35	1	US-08-158-682A-8	Sequence 8, Appl1	492	11.2	50.9	38	4	US-09-350-259-44	Sequence 44, Appl
420	11.2	50.9	35	1	US-07-744-282C-110	Sequence 110, App	493	11.2	50.9	38	4	US-09-509-015-10	Sequence 10, Appl
421	11.2	50.9	35	1	US-08-464-164-6	Sequence 6, Appl1	494	11.2	50.9	38	4	US-09-269-921-77	Sequence 77, Appl
422	11.2	50.9	35	1	US-08-455-896-9	Sequence 9, Appl1	495	11.2	50.9	38	5	PCT-US96-08235-10	Sequence 10, Appl
423	11.2	50.9	35	1	US-08-325-562-9	Sequence 9, Appl1	496	11.2	50.9	38	5	PCT-US96-09927-3	Sequence 3, Appl1
424	11.2	50.9	35	1	US-08-437-795-9	Sequence 9, Appl1	497	11.2	50.9	41	1	US-08-333-894-1	Sequence 1, Appl1
425	11.2	50.9	35	1	US-08-466-033-174	Sequence 174, App	498	11.2	50.9	42	3	US-09-564-805-144	Sequence 144, App
426	11.2	50.9	35	1	US-08-467-607-18	Sequence 18, Appl	499	11.2	50.9	43	3	US-08-732-708C-5	Sequence 5, Appl1
427	11.2	50.9	35	1	US-08-338-057-6	Sequence 6, Appl1	500	11.2	50.9	46	4	US-09-936-572-62	Sequence 62, Appl
428	11.2	50.9	35	1	US-08-508-448C-12	Sequence 12, Appl	501	11.2	50.9	46	4	US-09-936-572-63	Sequence 63, Appl
429	11.2	50.9	35	1	US-08-444-733-174	Sequence 174, App	502	11.2	50.9	46	4	US-09-936-572-64	Sequence 64, Appl
430	11.2	50.9	35	2	US-08-668-416-6	Sequence 6, Appl1	503	11.2	50.9	46	4	US-09-936-572-65	Sequence 65, Appl
431	11.2	50.9	35	2	US-08-464-134-174	Sequence 174, App	504	11.2	50.9	46	4	US-09-936-572-66	Sequence 66, Appl
432	11.2	50.9	35	2	US-08-469-362-18	Sequence 18, Appl	505	11.2	50.9	46	4	US-09-936-572-67	Sequence 67, Appl
433	11.2	50.9	35	2	US-08-461-361-174	Sequence 174, App	506	11.2	50.9	46	4	US-09-936-572-68	Sequence 68, Appl
434	11.2	50.9	35	2	US-08-715-568A-10	Sequence 10, Appl	507	11.2	50.9	46	4	US-09-936-572-69	Sequence 69, Appl
435	11.2	50.9	35	2	US-08-850-392-18	Sequence 18, Appl	508	11.2	50.9	46	4	US-09-936-572-70	Sequence 70, Appl
436	11.2	50.9	35	2	US-08-85-910-174	Sequence 174, App	509	11.2	50.9	46	4	US-09-936-572-71	Sequence 71, Appl
437	11.2	50.9	35	2	US-08-933-149-9	Sequence 9, Appl1	510	11.2	50.9	46	4	US-09-936-572-72	Sequence 72, Appl
438	11.2	50.9	35	2	US-09-082-343-9	Sequence 9, Appl1	511	11.2	50.9	46	4	US-09-936-572-73	Sequence 73, Appl
439	11.2	50.9	35	3	US-09-082-253-9	Sequence 8, Appl1	512	11.2	50.9	47	4	US-09-422-978-1375	Sequence 1375, Ap
440	11.2	50.9	35	3	US-09-177-349-8	Sequence 8, Appl1	513	11.2	50.9	49	4	US-09-936-572-49	Sequence 49, Appl
441	11.2	50.9	35	4	US-09-178-098A-3	Sequence 3, Appl1	514	11.2	50.9	50	2	US-08-827-116-8	Sequence 8, Appl1
442	11.2	50.9	35	4	US-09-162-622-9	Sequence 9, Appl1	515	11.2	50.9	50	2	US-08-827-116-9	Sequence 9, Appl1
443	11.2	50.9	35	4	US-09-509-015-9	Sequence 9, Appl1	516	11.2	50.9	50	3	US-08-827-117-8	Sequence 8, Appl1
444	11.2	50.9	35	4	US-09-043-861-10	Sequence 10, Appl	517	11.2	50.9	50	3	US-08-827-117-9	Sequence 9, Appl1
445	11.2	50.9	35	5	PCT-US92-06821A-56	Sequence 56, Appl	518	11.2	50.9	53	1	US-08-207-547A-10	Sequence 10, Appl
446	11.2	50.9	35	5	PCT-US96-08235-9	Sequence 9, Appl1	519	11.2	50.9	53	1	US-08-215-082-5	Sequence 10, Appl
447	11.2	50.9	36	1	US-08-403-762A-153	Sequence 153, App	520	11.2	50.9	53	2	US-08-702-652-10	Sequence 10, Appl
448	11.2	50.9	36	4	US-09-230-378A-1	Sequence 1, Appl1	521	11.2	50.9	60	1	US-08-207-547A-27	Sequence 27, Appl
449	11.2	50.9	36	4	US-09-926-492-4	Sequence 4, Appl1	522	11.2	50.9	60	2	US-08-215-082-27	Sequence 27, Appl
450	11.2	50.9	37	1	US-08-428-733A-6	Sequence 6, Appl1	523	11.2	50.9	60	2	US-08-702-652-27	Sequence 27, Appl
451	11.2	50.9	37	1	US-08-428-733A-36	Sequence 36, Appl	524	11.2	50.9	61	1	US-07-744-282C-111	Sequence 111, App
452	11.2	50.9	37	1	US-08-428-733A-37	Sequence 37, Appl	525	11.2	50.9	61	5	PCT-US92-06821A-57	Sequence 57, Appl
453	11.2	50.9	38	1	US-08-158-682A-9	Sequence 9, Appl1	526	11.2	50.9	63	4	US-09-936-572-47	Sequence 47, Appl
454	11.2	50.9	38	1	US-08-286-889-44	Sequence 44, Appl1	527	11.2	50.9	64	3	US-08-892-747-26	Sequence 26, Appl
455	11.2	50.9	38	1	US-08-337-268A-7	Sequence 7, Appl1	528	11.2	50.9	64	3	US-08-892-747-28	Sequence 28, Appl
456	11.2	50.9	38	1	US-08-464-164-7	Sequence 7, Appl1	529	11.2	50.9	66	4	US-09-270-767-25781	Sequence 25781, A
457	11.2	50.9	38	1	US-08-455-896-10	Sequence 10, Appl	530	11.2	50.9	66	4	US-09-936-572-48	Sequence 48, Appl
458	11.2	50.9	38	1	US-08-325-562-10	Sequence 10, Appl	531	11.2	50.9	67	4	US-09-270-767-27316	Sequence 27316, A
459	11.2	50.9	38	1	US-08-368-281-5	Sequence 5, Appl1	532	11.2	50.9	67	4	US-09-926-492-3	Sequence 3, Appl1
460	11.2	50.9	38	1	US-08-485-618-44	Sequence 44, Appl	533	11.2	50.9	70	1	US-08-207-547A-8	Sequence 8, Appl1
461	11.2	50.9	38	1	US-08-437-795-10	Sequence 10, Appl	534	11.2	50.9	70	1	US-08-215-082-8	Sequence 8, Appl1
462	11.2	50.9	38	1	US-08-480-662-3	Sequence 3, Appl1	535	11.2	50.9	70	2	US-08-702-652-8	Sequence 8, Appl1
463	11.2	50.9	38	1	US-08-358-171-6	Sequence 6, Appl1	536	11.2	50.9	71	1	US-08-207-547A-5	Sequence 5, Appl1
464	11.2	50.9	38	1	US-08-466-033-134	Sequence 134, App	537	11.2	50.9	71	1	US-08-215-082-5	Sequence 5, Appl1
465	11.2	50.9	38	1	US-08-362-652-44	Sequence 44, Appl	538	11.2	50.9	71	2	US-08-702-652-5	Sequence 5, Appl1

539	11.2	50.9	77	1	US-08-477-530-19	Sequence 19, Appl	612	11	50.0	24	1	US-08-620-467A-52	Sequence 52, Appl
540	11.2	50.9	77	1	US-08-477-530-20	Sequence 20, Appl	613	11	50.0	24	1	US-08-348-572-53	Sequence 53, Appl
541	11.2	50.9	77	1	US-08-477-530-19	Sequence 19, Appl	614	11	50.0	24	2	US-08-437-353A-85	Sequence 85, Appl
542	11.2	50.9	77	1	US-08-477-530-20	Sequence 20, Appl	615	11	50.0	24	3	US-08-445-463B-44	Sequence 44, Appl
543	11.2	50.9	77	1	US-08-477-830-19	Sequence 19, Appl	616	11	50.0	24	3	US-08-559-205-56	Sequence 56, Appl
544	11.2	50.9	77	1	US-08-477-830-20	Sequence 20, Appl	617	11	50.0	24	3	US-08-445-466C-44	Sequence 44, Appl
545	11.2	50.9	77	2	US-08-477-527A-252	Sequence 252, App	618	11	50.0	24	3	US-09-041-895B-53	Sequence 53, Appl
546	11.2	50.9	77	3	US-08-481-710-252	Sequence 252, App	619	11	50.0	24	4	US-08-044-857D-48	Sequence 48, Appl
547	11.2	50.9	77	5	PCT-US96-09537-252	Sequence 252, App	620	11	50.0	24	4	US-08-997-688A-33	Sequence 33, Appl
548	11.2	50.9	78	1	US-08-477-530-18	Sequence 18, Appl	621	11	50.0	24	4	US-08-442-001C-52	Sequence 52, Appl
549	11.2	50.9	78	1	US-08-477-530-18	Sequence 18, Appl	622	11	50.0	24	4	US-09-786-256C-19	Sequence 19, Appl
550	11.2	50.9	78	1	US-08-477-830-18	Sequence 18, Appl	623	11	50.0	24	4	US-09-086-436-15	Sequence 15, Appl
551	11.2	50.9	78	2	US-08-477-527A-115	Sequence 115, App	624	11	50.0	24	4	US-09-086-436-15	Sequence 15, Appl
552	11.2	50.9	87	2	US-08-477-527A-200	Sequence 200, App	625	11	50.0	24	4	US-09-086-436-21	Sequence 21, Appl
553	11.2	50.9	87	3	US-08-481-710-115	Sequence 115, App	626	11	50.0	24	4	US-09-086-436-27	Sequence 27, Appl
554	11.2	50.9	87	3	US-08-481-710-200	Sequence 200, App	627	11	50.0	24	5	PCT-US94-03437-14	Sequence 14, Appl
555	11.2	50.9	87	5	PCT-US96-09537-115	Sequence 115, App	628	11	50.0	26	1	US-08-403-762A-144	Sequence 144, App
556	11.2	50.9	87	5	PCT-US96-09537-200	Sequence 200, App	629	11	50.0	29	3	US-09-342-143-9	Sequence 9, Appl
557	11.2	50.9	94	3	US-08-976-413A-401	Sequence 401, App	630	11	50.0	29	4	US-09-924-433-9	Sequence 9, Appl
558	11.2	50.9	95	5	PCT-US94-06456-22	Sequence 22, Appl	631	11	50.0	30	4	US-08-948-113D-26	Sequence 26, Appl
559	11.2	50.9	95	5	PCT-US94-06456-51	Sequence 51, Appl	632	11	50.0	30	4	US-09-937-833-22	Sequence 22, Appl
560	11.2	50.9	96	1	US-08-210-222-20	Sequence 20, Appl	633	11	50.0	34	2	US-08-472-719-3	Sequence 3, Appl
561	11.2	50.9	96	5	PCT-US94-06456-23	Sequence 23, Appl	634	11	50.0	34	3	US-08-961-083-448	Sequence 448, App
562	11.2	50.9	96	5	PCT-US94-06456-29	Sequence 29, Appl	635	11	50.0	34	3	US-09-115-475-2	Sequence 2, Appl
563	11.2	50.9	96	5	PCT-US94-06456-52	Sequence 52, Appl	636	11	50.0	34	4	US-09-536-786-448	Sequence 448, App
564	11.2	50.9	96	5	PCT-US94-06456-58	Sequence 58, Appl	637	11	50.0	36	2	US-08-612-840A-14	Sequence 14, Appl
565	11.2	50.9	97	1	US-08-210-222-15	Sequence 15, Appl	638	11	50.0	37	2	US-09-060-288-5	Sequence 5, Appl
566	11.2	50.9	97	1	US-08-210-222-17	Sequence 17, Appl	639	11	50.0	37	3	US-08-872-571A-5	Sequence 5, Appl
567	11.2	50.9	97	1	US-08-210-222-18	Sequence 18, Appl	640	11	50.0	37	3	US-08-377-891-5	Sequence 5, Appl
568	11.2	50.9	97	1	US-08-210-222-19	Sequence 19, Appl	641	11	50.0	39	3	US-09-468-872-21	Sequence 21, Appl
569	11.2	50.9	97	5	PCT-US94-06456-12	Sequence 12, Appl	642	11	50.0	40	3	US-08-870-511-35	Sequence 35, Appl
570	11.2	50.9	97	5	PCT-US94-06456-17	Sequence 17, Appl	643	11	50.0	42	3	US-09-237-712-19	Sequence 19, Appl
571	11.2	50.9	97	5	PCT-US94-06456-27	Sequence 27, Appl	644	11	50.0	42	3	US-09-237-712-20	Sequence 20, Appl
572	11.2	50.9	97	5	PCT-US94-06456-41	Sequence 41, Appl	645	11	50.0	45	3	US-08-296-848A-1	Sequence 1, Appl
573	11.2	50.9	97	5	PCT-US94-06456-46	Sequence 46, Appl	646	11	50.0	45	3	US-08-296-848A-4	Sequence 4, Appl
574	11.2	50.9	97	5	PCT-US94-06456-56	Sequence 56, Appl	647	11	50.0	45	4	US-09-342-143-8	Sequence 8, Appl
575	11.2	50.9	98	1	US-08-210-222-6	Sequence 6, Appl	648	11	50.0	45	4	US-09-368-618-1	Sequence 1, Appl
576	11.2	50.9	98	1	US-08-210-222-9	Sequence 9, Appl	649	11	50.0	45	4	US-09-368-618-4	Sequence 4, Appl
577	11.2	50.9	98	1	US-08-210-222-10	Sequence 10, Appl	650	11	50.0	45	4	US-09-365-530-1	Sequence 1, Appl
578	11.2	50.9	98	1	US-08-210-222-13	Sequence 13, Appl	651	11	50.0	45	4	US-09-365-530-4	Sequence 4, Appl
579	11.2	50.9	98	1	US-08-210-222-18	Sequence 18, Appl	652	11	50.0	45	4	US-09-924-433-8	Sequence 8, Appl
580	11.2	50.9	98	1	US-08-210-222-23	Sequence 23, Appl	653	11	50.0	50	1	US-08-374-641-40	Sequence 40, Appl
581	11.2	50.9	98	5	PCT-US94-06456-11	Sequence 11, Appl	654	11	50.0	51	2	US-08-465-380-104	Sequence 104, App
582	11.2	50.9	98	5	PCT-US94-06456-13	Sequence 13, Appl	655	11	50.0	51	2	US-08-480-478-17	Sequence 17, Appl
583	11.2	50.9	98	5	PCT-US94-06456-14	Sequence 14, Appl	656	11	50.0	51	2	US-08-486-397-104	Sequence 104, App
584	11.2	50.9	98	5	PCT-US94-06456-16	Sequence 16, Appl	657	11	50.0	51	2	US-08-486-397-104	Sequence 104, App
585	11.2	50.9	98	5	PCT-US94-06456-18	Sequence 18, Appl	658	11	50.0	51	2	US-08-461-965-104	Sequence 104, App
586	11.2	50.9	98	5	PCT-US94-06456-21	Sequence 21, Appl	659	11	50.0	51	2	US-08-326-110A-17	Sequence 17, Appl
587	11.2	50.9	98	5	PCT-US94-06456-21	Sequence 21, Appl	660	11	50.0	51	2	US-08-634-641-104	Sequence 104, App
588	11.2	50.9	98	5	PCT-US94-06456-24	Sequence 24, Appl	661	11	50.0	51	3	US-09-249-472-104	Sequence 104, App
589	11.2	50.9	98	5	PCT-US94-06456-40	Sequence 40, Appl	662	11	50.0	51	3	US-09-249-472-104	Sequence 104, App
590	11.2	50.9	98	5	PCT-US94-06456-42	Sequence 42, Appl	663	11	50.0	51	3	US-09-249-451-104	Sequence 104, App
591	11.2	50.9	98	5	PCT-US94-06456-43	Sequence 43, Appl	664	11	50.0	51	3	US-08-809-455-104	Sequence 104, App
592	11.2	50.9	98	5	PCT-US94-06456-45	Sequence 45, Appl	665	11	50.0	51	3	US-09-249-461-104	Sequence 104, App
593	11.2	50.9	98	5	PCT-US94-06456-47	Sequence 47, Appl	666	11	50.0	51	3	US-09-249-448-104	Sequence 104, App
594	11.2	50.9	98	5	PCT-US94-06456-49	Sequence 49, Appl	667	11	50.0	51	3	US-09-300-909-9	Sequence 9, Appl
595	11.2	50.9	98	5	PCT-US94-06456-50	Sequence 50, Appl	668	11	50.0	51	4	US-09-702-705-1089	Sequence 1089, App
596	11.2	50.9	98	5	PCT-US94-06456-53	Sequence 53, Appl	669	11	50.0	51	4	US-09-736-457-1089	Sequence 1089, App
597	11.2	50.9	99	1	US-08-207-547A-4	Sequence 4, Appl	670	11	50.0	51	4	US-09-249-473-104	Sequence 104, App
598	11.2	50.9	99	1	US-08-215-082-4	Sequence 4, Appl	671	11	50.0	51	4	US-09-614-124B-1089	Sequence 1089, App
599	11.2	50.9	99	2	US-08-702-652-4	Sequence 4, Appl	672	11	50.0	51	4	US-09-671-325-1089	Sequence 1089, App
600	11.2	50.9	99	5	PCT-US92-06821A-23	Sequence 23, Appl	673	11	50.0	51	4	US-09-658-824-1089	Sequence 1089, App
601	11.2	50.9	20	1	US-08-437-027-16	Sequence 16, Appl	674	11	50.0	51	4	US-09-913-955A-6	Sequence 6, Appl
602	11.2	50.9	20	3	US-09-193-377B-33	Sequence 33, Appl	675	11	50.0	52	3	US-09-300-909-10	Sequence 10, Appl
603	11.2	50.9	20	3	US-09-334-620-3	Sequence 3, Appl	676	11	50.0	52	4	US-09-913-955A-5	Sequence 5, Appl
604	11.2	50.9	20	4	US-09-198-452A-5282	Sequence 5282, App	677	11	50.0	60	1	US-08-470-958-14	Sequence 14, Appl
605	11.2	50.9	20	4	US-09-023-228B-78	Sequence 78, Appl	678	11	50.0	61	3	US-09-023-228B-80	Sequence 80, Appl
606	11.2	50.9	20	4	US-10-029-517-4	Sequence 4, Appl	679	11	50.0	61	3	US-09-163-025B-78	Sequence 78, Appl
607	11.2	50.9	21	1	US-07-626-923A-6	Sequence 6, Appl	680	11	50.0	61	3	US-09-163-025B-80	Sequence 80, Appl
608	11.2	50.9	21	4	US-09-657-472-492	Sequence 492, App	681	11	50.0	61	4	US-09-103-282-78	Sequence 78, Appl
609	11.2	50.9	21	4	US-09-657-472-807	Sequence 807, App	682	11	50.0	61	4	US-10-037-282-80	Sequence 80, Appl
610	11.2	50.9	21	4	US-09-06-393A-21	Sequence 21, Appl	683	11	50.0	61	4	US-10-037-282-80	Sequence 80, Appl
611	11.2	50.9	24	1	US-08-423-383-85	Sequence 85, Appl	684	11	50.0	64	4	US-09-270-767-26870	Sequence 26870, A

685	11	50.0	65	1	US-08-453-104-17	Sequence 17, Appl	C 758	10.8	49.1	20	3	US-08-738-652-18	Sequence 18, Appl
686	11	50.0	65	2	US-08-694-824-17	Sequence 17, Appl	C 759	10.8	49.1	20	3	US-08-738-652-19	Sequence 19, Appl
C 687	11	50.0	65	4	US-08-956-171E-2465	Sequence 2465, Ap	C 760	10.8	49.1	20	3	US-08-738-652-20	Sequence 20, Appl
C 688	11	50.0	65	4	US-08-956-171E-5017	Sequence 5017, Ap	C 761	10.8	49.1	20	3	US-08-738-652-21	Sequence 21, Appl
C 689	11	50.0	65	4	US-08-781-986A-2465	Sequence 2465, Ap	C 762	10.8	49.1	20	3	US-09-286-098-7	Sequence 7, Appl
C 690	11	50.0	65	4	US-08-781-986A-5017	Sequence 5017, Ap	C 763	10.8	49.1	20	3	US-09-286-098-8	Sequence 8, Appl
C 691	11	50.0	71	4	US-09-270-767-8944	Sequence 8944, Ap	C 764	10.8	49.1	20	3	US-09-286-098-9	Sequence 9, Appl
C 692	11	50.0	71	4	US-09-270-767-24226	Sequence 24226, A	C 765	10.8	49.1	20	3	US-09-286-098-10	Sequence 10, Appl
C 693	11	50.0	72	1	US-08-434-001-20	Sequence 20, Appl	C 766	10.8	49.1	20	3	US-09-286-098-37	Sequence 37, Appl
C 694	11	50.0	72	1	US-08-433-585-20	Sequence 54, Appl	C 767	10.8	49.1	20	3	US-08-960-774-15	Sequence 15, Appl
695	11	50.0	72	1	US-08-433-585-20	Sequence 20, Appl	C 768	10.8	49.1	20	3	US-08-960-774-17	Sequence 17, Appl
696	11	50.0	72	1	US-08-433-585-54	Sequence 54, Appl	C 769	10.8	49.1	20	3	US-09-325-193A-7	Sequence 7, Appl
697	11	50.0	72	1	US-08-434-425-20	Sequence 20, Appl	C 770	10.8	49.1	20	4	US-09-325-193A-8	Sequence 8, Appl
698	11	50.0	72	1	US-08-434-425-54	Sequence 54, Appl	C 771	10.8	49.1	20	4	US-09-325-193A-9	Sequence 9, Appl
699	11	50.0	72	2	US-08-437-667-20	Sequence 20, Appl	C 772	10.8	49.1	20	4	US-09-325-193A-31	Sequence 31, Appl
700	11	50.0	72	2	US-08-437-667-54	Sequence 54, Appl	C 773	10.8	49.1	20	4	US-09-325-193A-33	Sequence 33, Appl
701	11	50.0	72	3	US-08-906-955-20	Sequence 20, Appl	C 774	10.8	49.1	20	4	US-09-325-193A-34	Sequence 34, Appl
702	11	50.0	72	3	US-08-906-955-54	Sequence 54, Appl	C 775	10.8	49.1	20	4	US-09-191-170-7	Sequence 7, Appl
703	11	50.0	72	3	US-08-945-909-20	Sequence 20, Appl	C 776	10.8	49.1	20	4	US-09-191-170-8	Sequence 8, Appl
704	11	50.0	72	3	US-08-945-909-54	Sequence 54, Appl	C 777	10.8	49.1	20	4	US-09-191-170-9	Sequence 9, Appl
705	11	50.0	72	3	US-09-396-002A-20	Sequence 20, Appl	C 778	10.8	49.1	20	4	US-09-191-170-10	Sequence 10, Appl
706	11	50.0	72	3	US-09-396-002A-54	Sequence 54, Appl	C 779	10.8	49.1	20	4	US-09-191-170-37	Sequence 37, Appl
707	11	50.0	72	4	US-10-077-319-20	Sequence 20, Appl	C 780	10.8	49.1	20	4	US-09-112-580-137	Sequence 137, App
708	11	50.0	72	4	US-10-077-319-54	Sequence 54, Appl	C 781	10.8	49.1	20	4	US-09-337-639-15	Sequence 15, Appl
709	11	50.0	72	4	US-09-621-976-14536	Sequence 14536, A	C 782	10.8	49.1	20	4	US-09-337-639-17	Sequence 17, Appl
710	11	50.0	72	5	PCT-US96-06060-20	Sequence 20, Appl	C 783	10.8	49.1	21	3	US-09-413-304-14	Sequence 14, Appl
711	11	50.0	72	5	PCT-US96-06060-54	Sequence 54, Appl	C 784	10.8	49.1	21	3	US-09-286-098-39	Sequence 39, Appl
712	11	50.0	76	1	US-07-988-430-81	Sequence 81, Appl	C 785	10.8	49.1	21	4	US-09-817-856-14	Sequence 14, Appl
713	11	50.0	76	1	US-08-425-336-79	Sequence 79, Appl	C 786	10.8	49.1	22	3	US-09-092-314-9	Sequence 9, Appl
714	11	50.0	76	1	US-08-477-530-8	Sequence 8, Appl	C 787	10.8	49.1	22	3	US-08-778-217-3	Sequence 3, Appl
715	11	50.0	76	1	US-08-477-830-8	Sequence 8, Appl	C 788	10.8	49.1	24	2	US-08-821-948-3	Sequence 3, Appl
716	11	50.0	76	1	US-08-477-830-8	Sequence 8, Appl	C 789	10.8	49.1	24	2	US-08-821-948-3	Sequence 3, Appl
717	11	50.0	76	1	US-08-488-113B-79	Sequence 79, Appl	C 790	10.8	49.1	24	4	US-09-227-701-1	Sequence 1, Appl
718	11	50.0	76	1	US-08-477-484B-79	Sequence 79, Appl	C 791	10.8	49.1	24	4	US-09-397-955C-3	Sequence 3, Appl
719	11	50.0	76	2	US-08-645-360-79	Sequence 79, Appl	C 792	10.8	49.1	24	4	US-10-173-480-3	Sequence 3, Appl
720	11	50.0	76	3	US-08-839-765-79	Sequence 79, Appl	C 793	10.8	49.1	24	5	PCT-US95-04092-3	Sequence 3, Appl
721	11	50.0	76	3	US-09-136-389-79	Sequence 79, Appl	C 794	10.8	49.1	25	3	US-08-865-960-7	Sequence 7, Appl
722	11	50.0	76	3	US-09-610-838-79	Sequence 79, Appl	C 795	10.8	49.1	25	3	US-09-342-749-13	Sequence 13, Appl
723	11	50.0	76	4	US-09-711-485-79	Sequence 79, Appl	C 796	10.8	49.1	25	4	US-09-691-840-13	Sequence 13, Appl
724	11	50.0	76	5	PCT-US92-09487-81	Sequence 81, Appl	C 797	10.8	49.1	25	4	US-09-538-709-296	Sequence 296, App
725	11	50.0	77	1	US-08-442-572-29	Sequence 29, Appl	C 798	10.8	49.1	25	4	US-09-827-998-905	Sequence 905, App
726	11	50.0	77	1	US-08-442-572-29	Sequence 29, Appl	C 799	10.8	49.1	25	4	US-09-827-998-918	Sequence 918, App
727	11	50.0	77	1	US-08-399-412A-34	Sequence 34, Appl	C 800	10.8	49.1	25	4	US-09-827-998-919	Sequence 919, App
728	11	50.0	77	1	US-08-361-795-28	Sequence 28, Appl	C 801	10.8	49.1	25	4	US-08-859-998-1103	Sequence 1103, Ap
729	11	50.0	77	1	US-08-361-795-29	Sequence 29, Appl	C 802	10.8	49.1	27	2	US-08-859-998-1103	Sequence 1103, Ap
730	11	50.0	77	1	US-08-447-169A-38	Sequence 38, Appl	C 803	10.8	49.1	27	3	US-09-225-201B-1103	Sequence 1103, Ap
731	11	50.0	77	2	US-08-233-012C-38	Sequence 38, Appl	C 804	10.8	49.1	27	4	US-08-840-713-33	Sequence 33, Appl
732	11	50.0	77	4	US-09-860-474-38	Sequence 38, Appl	C 805	10.8	49.1	27	4	US-08-639-763-20	Sequence 20, Appl
733	11	50.0	77	5	PCT-US95-05600-111	Sequence 111, App	C 806	10.8	49.1	28	1	US-09-171-755B-20	Sequence 20, Appl
734	11	50.0	77	5	PCT-US95-05600-112	Sequence 112, App	C 807	10.8	49.1	28	4	US-09-142-593-6	Sequence 6, Appl
C 735	11	50.0	84	3	US-08-995-369-3	Sequence 3, Appl	C 808	10.8	49.1	29	4	US-09-304-233-391	Sequence 391, App
C 736	11	50.0	85	4	PCT-US95-10075-3	Sequence 3, Appl	C 809	10.8	49.1	29	4	US-09-927-886-12	Sequence 12, Appl
C 737	11	50.0	85	4	US-09-370-767-25486	Sequence 25486, A	C 810	10.8	49.1	29	4	US-09-927-886-13	Sequence 13, Appl
738	11	50.0	90	3	US-08-552-664-17	Sequence 17, Appl	C 811	10.8	49.1	30	3	US-08-831-882-13	Sequence 13, Appl
739	11	50.0	90	3	US-09-487-874-17	Sequence 17, Appl	C 812	10.8	49.1	30	3	US-08-831-882-13	Sequence 13, Appl
740	10.8	49.1	17	1	US-08-373-124A-1206	Sequence 1206, Ap	C 813	10.8	49.1	31	4	US-09-718-034-7	Sequence 7, Appl
741	10.8	49.1	17	1	US-08-373-124A-1208	Sequence 1208, Ap	C 814	10.8	49.1	34	2	US-08-924-695A-17	Sequence 17, Appl
742	10.8	49.1	17	1	US-08-373-124A-1210	Sequence 1210, Ap	C 815	10.8	49.1	34	3	US-09-155-107-38	Sequence 38, Appl
743	10.8	49.1	17	1	US-08-640-378-22	Sequence 22, Appl	C 816	10.8	49.1	36	3	US-08-792-832A-11	Sequence 11, Appl
744	10.8	49.1	17	1	US-08-435-628-1206	Sequence 1206, Ap	C 817	10.8	49.1	36	4	US-09-479-005A-881	Sequence 881, App
745	10.8	49.1	17	1	US-08-435-628-1208	Sequence 1208, Ap	C 818	10.8	49.1	36	4	US-09-479-005A-876	Sequence 876, App
746	10.8	49.1	17	4	US-08-435-628-1210	Sequence 1210, Ap	C 819	10.8	49.1	40	3	US-09-091-81A-89	Sequence 89, Appl
C 747	10.8	49.1	17	4	US-09-827-998-90	Sequence 90, Appl	C 820	10.8	49.1	41	3	US-08-564-109C-10	Sequence 10, Appl
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C 754	10.8	49.1	20	3	US-08-386-063-8	Sequence 8, Appl	C 827	10.8	49.1	47	4	US-09-422-978-1867	Sequence 1867, Ap
C 755	10.8	49.1	20	3	US-08-386-063-10	Sequence 10, Appl	C 828	10.8	49.1	47	4	US-09-837-644-1	Sequence 1, Appl
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C 832	10.8	49.1	51	4	US-08-956-171E-2535	Sequence 2535, Ap	905	10.6	48.2	17	3	US-08-584-044-5598	Sequence 5399, Ap
C 833	10.8	49.1	51	4	US-08-956-171E-3434	Sequence 3434, Ap	906	10.6	48.2	17	4	US-09-371-772B-2297	Sequence 2297, Ap
C 834	10.8	49.1	51	4	US-08-781-986A-2535	Sequence 2535, Ap	907	10.6	48.2	18	1	US-08-435-350-61	Sequence 61, Appl
C 835	10.8	49.1	51	4	US-08-781-986A-3434	Sequence 3434, Ap	908	10.6	48.2	19	4	US-09-696-791-1527	Sequence 1527, Ap
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C 846	10.8	49.1	63	3	US-09-433-428D-48	Sequence 48, Appl	C 919	10.6	48.2	22	3	US-09-163-163-3	Sequence 3, Appl1
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C 873	10.8	49.1	77	1	US-08-463-093A-35	Sequence 35, Appl	C 946	10.6	48.2	28	3	US-08-339-214-53	Sequence 53, Appl
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ALIGNMENTS

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; Patent No. 6438148
; GENERAL INFORMATION:
; APPLICANT: Raz, Eyal
; TITLE OF INVENTION: Immunization-Free Methods for Treating
; TITLE OF INVENTION: Antigen-Stimulated Inflammation in a Mammalian Host and
; TITLE OF INVENTION: Shifting the Host's Antigen Immune Responsiveness to a T11
; FILE REFERENCE: 6510-170CON4
; CURRENT APPLICATION NUMBER: US/09/235,742
; CURRENT FILING DATE: 1999-01-21
; EARLIER APPLICATION NUMBER: 08/927,120
; EARLIER FILING DATE: 1997-09-05
; EARLIER APPLICATION NUMBER: 08/593,554
; EARLIER FILING DATE: 1996-01-30
; EARLIER APPLICATION NUMBER: 08/725,968
; EARLIER FILING DATE: 1996-10-04
; EARLIER APPLICATION NUMBER: 60/028,118
; EARLIER FILING DATE: 1996-10-11
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; SEQ ID NO 19
; LENGTH: 22
; TYPE: DNA
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; OTHER INFORMATION: Recombinant or Synthetic Sequence
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; Patent No. 6514948
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; GENERAL INFORMATION:
; APPLICANT: RAZ, Eyal R.
; APPLICANT: KOBAYASHI, Hiroko
; TITLE OF INVENTION: METHOD FOR ENHANCING AN IMMUNE RESPONSE
; FILE REFERENCE: 30448.64US01
; CURRENT APPLICATION NUMBER: US/09/347,343A
; CURRENT FILING DATE: 1999-07-02
; NUMBER OF SEQ ID NOS: 40
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; Patent No. 6534062
; GENERAL INFORMATION:
; APPLICANT: Raz, Eyal
; APPLICANT: Cho, Hearn Jay
; APPLICANT: Richman, Douglas
; APPLICANT: Horner, Anthony A.
; TITLE OF INVENTION: Method for Increasing a Cytotoxic T
; TITLE OF INVENTION: Lymphocyte Response in vivo.
; FILE REFERENCE: 06510-188US1
; CURRENT APPLICATION NUMBER: US/09/820,484
; CURRENT FILING DATE: 2001-03-28
; PRIOR APPLICATION NUMBER: US 60/192,537
; PRIOR FILING DATE: 2000-03-28
; PRIOR APPLICATION NUMBER: US 60/203,567
; PRIOR FILING DATE: 2000-05-11
; PRIOR APPLICATION NUMBER: US 60/215,895
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US-09-820-484-1

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; Patent No. 6534062
; GENERAL INFORMATION:
; APPLICANT: Raz, Eyal
; APPLICANT: Cho, Hearn Jay
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; APPLICANT: Richman, Douglas
; APPLICANT: Horner, Anthony A.
; TITLE OF INVENTION: Method for increasing a Cytotoxic T
; FILE REFERENCE: 06510-188US1
; CURRENT APPLICATION NUMBER: US/09/820,484
; CURRENT FILING DATE: 2001-03-28
; PRIOR APPLICATION NUMBER: US 60/192,537
; PRIOR FILING DATE: 2000-03-28
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; Patent No. 6552006
; GENERAL INFORMATION:
; APPLICANT: Eyal Raz
; APPLICANT: Richard Kornbluth
; APPLICANT: Antonio Catanzaro
; APPLICANT: Tomoko Hayashi
; APPLICANT: Dennis Carson
; TITLE OF INVENTION: Immunomodulatory Polynucleotides in
; FILE REFERENCE: UCAL166
; CURRENT APPLICATION NUMBER: US/09/774,403A
; CURRENT FILING DATE: 2002-04-15
; PRIOR APPLICATION NUMBER: 60/179,353
; PRIOR FILING DATE: 2000-01-31
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; LENGTH: 22
; TYPE: DNA
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Immunomodulatory sequence
US-09-774-403A-1
```

```

Query Match          100.0%; Score 22; DB 4; Length 22;
Best Local Similarity 100.0%; Pred. No. 0.027;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
```

```

QY 1 TGAAGTGAACGTTGAGATGA 22
DB 1 TGAAGTGAACGTTGAGATGA 22
```

```

RESULT 6
US-09-296-477-2
; Sequence 2, Application US/09296477A
; Patent No. 6589940
; GENERAL INFORMATION:
```

```

; APPLICANT: RAZ, E.
; APPLICANT: SCHWARTZ, D.
; APPLICANT: ROMAN, M.
; APPLICANT: DIANA, D.
; TITLE OF INVENTION: IMMUNOSTIMULATORY OLIGONUCLEOTIDES,
; FILE REFERENCE: 37782000420
; CURRENT APPLICATION NUMBER: US/09/296,477A
; CURRENT FILING DATE: 1999-04-22
; PRIOR APPLICATION NUMBER: 09/092,329
; PRIOR FILING DATE: 1998-06-05
; PRIOR APPLICATION NUMBER: 60/048,793
; PRIOR FILING DATE: 1997-06-06
; NUMBER OF SEQ ID NOS: 21
; SOFTWARE: FaastSeq for Windows Version 3.0
; SEQ ID NO 2
; LENGTH: 22
; TYPE: DNA
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Synthetic construct
US-09-296-477-2
```

```

Query Match          100.0%; Score 22; DB 4; Length 22;
Best Local Similarity 100.0%; Pred. No. 0.027;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
```

```

QY 1 TGAAGTGAACGTTGAGATGA 22
DB 1 TGAAGTGAACGTTGAGATGA 22
```

RESULT 7

```

US-09-308-036A-1
; Sequence 1, Application US/09308036A
; Patent No. 6610661
; GENERAL INFORMATION:
; APPLICANT: Raz, Eyal
; APPLICANT: Roman, Mark
; TITLE OF INVENTION: Immunostimulatory
; FILE REFERENCE: 6510-172CIP
; CURRENT APPLICATION NUMBER: US/09/308,036A
; CURRENT FILING DATE: 2000-02-16
; PRIOR APPLICATION NUMBER: PCT/US97/19004
; PRIOR FILING DATE: 1997-10-09
; PRIOR APPLICATION NUMBER: 60/028,118
; PRIOR FILING DATE: 1996-10-11
; NUMBER OF SEQ ID NOS: 2
; SOFTWARE: FaastSeq for Windows Version 4.0
; SEQ ID NO 1
; LENGTH: 22
; TYPE: DNA
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: DY1018 polynucleotide
US-09-308-036A-1
```

```

Query Match          100.0%; Score 22; DB 4; Length 22;
Best Local Similarity 100.0%; Pred. No. 0.027;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
```

```

QY 1 TGAAGTGAACGTTGAGATGA 22
DB 1 TGAAGTGAACGTTGAGATGA 22
```

```

RESULT 8
US-09-791-500-1
; Sequence 1, Application US/09791500
; Patent No. 6613751
```

```
/ GENERAL INFORMATION:
/ APPLICANT: Raz, Eyal
/ APPLICANT: Rachmilewicz, Daniel
/ TITLE OF INVENTION: Method for Treating Inflammatory Bowel
/ TITLE OF INVENTION: Disease and Other Forms of Gastrointestinal Inflammation.
/ FILE REFERENCE: 6510-202US1
/ CURRENT APPLICATION NUMBER: US/09/791,500
/ CURRENT FILING DATE: 2001-02-22
/ NUMBER OF SEQ ID NOS: 39
/ SOFTWARE: FastSeq for Windows Version 4.0
/ SEQ ID NO: 1
/ LENGTH: 22
/ TYPE: DNA
/ ORGANISM: Artificial Sequence
/ FEATURE:
/ OTHER INFORMATION: synthetic polynucleotide sequence
US-09-791-500-1

Query Match          100.0%; Score 22; DB 4; Length 22;
Best Local Similarity 100.0%; Pred. No. 0.027;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 TGAAGTGAACGTTGAGATGA 22
    |||||
DB 1 TGAAGTGAACGTTGAGATGA 22

RESULT 9
US-09-565-906-2
/ Sequence 2, Application US/09565906
/ Patent No. 6737066
/ GENERAL INFORMATION:
/ APPLICANT: Moss, Ronald B.
/ TITLE OF INVENTION: HIV Immunogenic Compositions and Methods
/ FILE REFERENCE: P-1M 4029
/ CURRENT APPLICATION NUMBER: US/09/565,906
/ CURRENT FILING DATE: 2000-05-05
/ PRIOR APPLICATION NUMBER: US 60/132,762
/ PRIOR FILING DATE: 1999-05-06
/ PRIOR APPLICATION NUMBER: US 60/150,667
/ PRIOR FILING DATE: 1999-08-25
/ NUMBER OF SEQ ID NOS: 4
/ SOFTWARE: FastSeq for Windows Version 4.0
/ SEQ ID NO: 2
/ LENGTH: 22
/ TYPE: DNA
/ ORGANISM: Artificial Sequence
/ FEATURE:
/ OTHER INFORMATION: phosphorothioate-modified synthetic
US-09-565-906-2

Query Match          100.0%; Score 22; DB 4; Length 22;
Best Local Similarity 100.0%; Pred. No. 0.027;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 TGAAGTGAACGTTGAGATGA 22
    |||||
DB 1 TGAAGTGAACGTTGAGATGA 22

RESULT 10
US-09-296-477-15
/ Sequence 15, Application US/09296477A
/ Patent No. 6589940
/ GENERAL INFORMATION:
/ APPLICANT: Raz, E.
/ APPLICANT: SCHWARTZ, D.
/ APPLICANT: ROMAN, M.
/ APPLICANT: DINA, D.
/ TITLE OF INVENTION: IMMUNOSTIMULATORY OLIGONUCLEOTIDES,
/ TITLE OF INVENTION: COMPOSITIONS THEREOF AND METHODS OF USE
/ TITLE OF INVENTION: THEREOF
```

```
/ FILE REFERENCE: 377882000420
/ CURRENT APPLICATION NUMBER: US/09/296,477A
/ CURRENT FILING DATE: 1999-04-22
/ EARLIER APPLICATION NUMBER: 09/092,329
/ EARLIER FILING DATE: 1998-06-05
/ EARLIER APPLICATION NUMBER: 60/048,793
/ EARLIER FILING DATE: 1997-06-06
/ NUMBER OF SEQ ID NOS: 21
/ SOFTWARE: FastSeq for Windows Version 3.0
/ SEQ ID NO: 15
/ LENGTH: 22
/ TYPE: DNA
/ ORGANISM: Artificial Sequence
/ FEATURE:
/ OTHER INFORMATION: synthetic construct
/ NAME/KEY: modified base
/ LOCATION: (11)...(11)
/ OTHER INFORMATION: 5-bromocytosine
US-09-296-477-15

Query Match          95.5%; Score 21; DB 4; Length 22;
Best Local Similarity 95.5%; Pred. No. 0.087;
Matches 21; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

QY 1 TGAAGTGAACGTTGAGATGA 22
    |||||
DB 1 TGAAGTGAACGTTGAGATGA 22

RESULT 11
US-09-092-314-2
/ Sequence 2, Application US/09092314
/ Patent No. 6225292
/ GENERAL INFORMATION:
/ APPLICANT: Raz, Eyal
/ APPLICANT: Roman, Mark
/ TITLE OF INVENTION: Inhibitors of DNA Immunostimulatory
/ TITLE OF INVENTION: Sequence Activity
/ Patent No. 6225292
/ FILE REFERENCE: 6510-173US1
/ CURRENT APPLICATION NUMBER: US/09/092,314
/ CURRENT FILING DATE: 1998-06-05
/ PRIOR APPLICATION NUMBER: 60/048,794
/ PRIOR FILING DATE: 1997-06-06
/ NUMBER OF SEQ ID NOS: 11
/ SOFTWARE: FastSeq for Windows Version 4.0
/ SEQ ID NO: 2
/ LENGTH: 22
/ TYPE: DNA
/ ORGANISM: Artificial Sequence
/ FEATURE:
/ OTHER INFORMATION: Oligonucleotide
US-09-092-314-2

Query Match          92.7%; Score 20.4; DB 3; Length 22;
Best Local Similarity 95.5%; Pred. No. 0.18;
Matches 21; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

QY 1 TGAAGTGAACGTTGAGATGA 22
    |||||
DB 1 TGAAGTGAACGTTGAGATGA 22

RESULT 12
US-09-820-484-2
/ Sequence 2, Application US/09820484
/ Patent No. 6534062
/ GENERAL INFORMATION:
/ APPLICANT: Raz, Eyal
/ APPLICANT: Cho, Hearn Jay
/ APPLICANT: Richman, Douglas
/ APPLICANT: Horner, Anthony A.
```

;; TITLE OF INVENTION: Method for Increasing a Cytotoxic T
;; FILE OF INVENTION: Lymphocyte Response in vivo.
;; FILE REFERENCE: 06510-188US1
;; CURRENT APPLICATION NUMBER: US/09/820,484
;; CURRENT FILING DATE: 2001-03-28
;; PRIOR APPLICATION NUMBER: US 60/192,537
;; PRIOR FILING DATE: 2000-03-28
;; PRIOR APPLICATION NUMBER: US 60/203,567
;; PRIOR FILING DATE: 2000-05-11
;; PRIOR APPLICATION NUMBER: US 60/215,895
;; PRIOR FILING DATE: 2000-07-05
;; NUMBER OF SEQ ID NOS: 8
;; SOFTWARE: FastSeq for Windows Version 4.0
;; SEQ ID NO 2
;; LENGTH: 22
;; TYPE: DNA
;; ORGANISM: Artificial Sequence
;; FEATURE:
;; OTHER INFORMATION: mutated ODN
;; NAME/KEY: modified base
;; LOCATION: (1)...(1)
;; OTHER INFORMATION: disulfide thymine
US-09-820-484-2

Query Match 92.7%; Score 20.4; DB 4; Length 22;
Best Local Similarity 95.5%; Pred. No. 0.18;
Matches 21; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

OY 1 TGACTGTGAACGTTGCAGATGA 22
DB 1 TGACTGTGAACGTTGCAGATGA 22

RESULT 13
US-09-820-484-6
;; Sequence 6, Application US/09820484
;; Patent No. 6534062
;; GENERAL INFORMATION:
;; APPLICANT: Raz, Eyal
;; APPLICANT: Cho, Hearn Jay
;; APPLICANT: Richman, Douglas
;; APPLICANT: Horner, Anthony A.
;; TITLE OF INVENTION: Method for Increasing a Cytotoxic T
;; FILE OF INVENTION: Lymphocyte Response in vivo.
;; FILE REFERENCE: 06510-188US1
;; CURRENT APPLICATION NUMBER: US/09/820,484
;; CURRENT FILING DATE: 2001-03-28
;; PRIOR APPLICATION NUMBER: US 60/192,537
;; PRIOR FILING DATE: 2000-03-28
;; PRIOR APPLICATION NUMBER: US 60/203,567
;; PRIOR FILING DATE: 2000-05-11
;; PRIOR APPLICATION NUMBER: US 60/215,895
;; PRIOR FILING DATE: 2000-07-05
;; NUMBER OF SEQ ID NOS: 8
;; SOFTWARE: FastSeq for Windows Version 4.0
;; SEQ ID NO 6
;; LENGTH: 22
;; TYPE: DNA
;; ORGANISM: Artificial Sequence
;; FEATURE:
;; OTHER INFORMATION: mutated control ODN
US-09-820-484-6

Query Match 92.7%; Score 20.4; DB 4; Length 22;
Best Local Similarity 95.5%; Pred. No. 0.18;
Matches 21; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

OY 1 TGACTGTGAACGTTGCAGATGA 22
DB 1 TGACTGTGAACGTTGCAGATGA 22

RESULT 14

US-09-774-403A-2
;; Sequence 2, Application US/09774403A
;; Patent No. 6552006
;; GENERAL INFORMATION:
;; APPLICANT: Eyal Raz
;; APPLICANT: Richard Kornbluth
;; APPLICANT: Antonio Catanzaro
;; APPLICANT: Tomoko Hayashi
;; APPLICANT: Dennis Carson
;; TITLE OF INVENTION: Immunomodulatory Polynucleotides in
;; FILE OF INVENTION: Treatment of Infection by an Intracellular Pathogen
;; FILE REFERENCE: UCAL166
;; CURRENT APPLICATION NUMBER: US/09/774,403A
;; CURRENT FILING DATE: 2002-04-15
;; PRIOR APPLICATION NUMBER: 60/179,353
;; PRIOR FILING DATE: 2000-01-31
;; NUMBER OF SEQ ID NOS: 7
;; SOFTWARE: FastSeq for Windows Version 4.0
;; SEQ ID NO 2
;; LENGTH: 22
;; TYPE: DNA
;; ORGANISM: Artificial Sequence
;; FEATURE:
;; OTHER INFORMATION: Control sequence
US-09-774-403A-2

Query Match 92.7%; Score 20.4; DB 4; Length 22;
Best Local Similarity 95.5%; Pred. No. 0.18;
Matches 21; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

OY 1 TGACTGTGAACGTTGCAGATGA 22
DB 1 TGACTGTGAACGTTGCAGATGA 22

RESULT 15
US-09-296-477-1
;; Sequence 1, Application US/09296477A
;; Patent No. 6589940
;; GENERAL INFORMATION:
;; APPLICANT: RAZ, E.
;; APPLICANT: SCHWARTZ, D.
;; APPLICANT: ROMAN, M.
;; APPLICANT: DINA, D.
;; TITLE OF INVENTION: IMMUNOSTIMULATORY OLIGONUCLEOTIDES,
;; FILE OF INVENTION: COMPOSITIONS THEREOF AND METHODS OF USE
;; TITLE OF INVENTION: THEREOF
;; FILE REFERENCE: 37788200420
;; CURRENT APPLICATION NUMBER: US/09/296,477A
;; CURRENT FILING DATE: 1999-04-22
;; PRIOR APPLICATION NUMBER: 09/092,329
;; EARLIER FILING DATE: 1998-06-05
;; EARLIER APPLICATION NUMBER: 60/048,793
;; EARLIER FILING DATE: 1997-06-06
;; NUMBER OF SEQ ID NOS: 21
;; SOFTWARE: FastSeq for Windows Version 3.0
;; SEQ ID NO 1
;; LENGTH: 22
;; TYPE: DNA
;; ORGANISM: Artificial Sequence
;; FEATURE:
;; OTHER INFORMATION: Synthetic construct
US-09-296-477-1

Query Match 92.7%; Score 20.4; DB 4; Length 22;
Best Local Similarity 95.5%; Pred. No. 0.18;
Matches 21; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

OY 1 TGACTGTGAACGTTGCAGATGA 22
DB 1 TGACTGTGAACGTTGCAGATGA 22

RESULT 16
US-09-296-477-5/c
; Sequence 5, Application US/09296477A
; Patent No. 6589940
; GENERAL INFORMATION:
; APPLICANT: RAZ, E.
; APPLICANT: SCHWARTZ, D.
; APPLICANT: ROMAN, M.
; APPLICANT: DINI, D.
; TITLE OF INVENTION: IMMUNOSTIMULATORY OLIGONUCLEOTIDES,
; TITLE OF INVENTION: COMPOSITIONS THEREOF AND METHODS OF USE
; FILE REFERENCE: 37788200420
; CURRENT APPLICATION NUMBER: US/09/296,477A
; EARLIER FILING DATE: 1999-04-22
; EARLIER APPLICATION NUMBER: 09/092,329
; EARLIER FILING DATE: 1998-06-05
; EARLIER APPLICATION NUMBER: 60/048,793
; NUMBER OF SEQ ID NOS: 21
; SOFTWARE: FastSeq for Windows Version 3.0
; SEQ ID NO 5
; LENGTH: 22
; TYPE: DNA
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Synthetic construct
US-09-296-477-5

Query Match 92.7%; Score 20.4; DB 4; Length 22;
Best Local Similarity 95.5%; Pred. No. 0.18;
Matches 21; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

QY 1 TGACTGTGAACGTTCCAGATGA 22
DB 22 TGACCTGAAAGTTCCAGATGA 1

RESULT 17
US-09-296-477-6
; Sequence 6, Application US/09296477A
; Patent No. 6589940
; GENERAL INFORMATION:
; APPLICANT: RAZ, E.
; APPLICANT: SCHWARTZ, D.
; APPLICANT: ROMAN, M.
; APPLICANT: DINI, D.
; TITLE OF INVENTION: IMMUNOSTIMULATORY OLIGONUCLEOTIDES,
; TITLE OF INVENTION: COMPOSITIONS THEREOF AND METHODS OF USE
; FILE REFERENCE: 37788200420
; CURRENT APPLICATION NUMBER: US/09/296,477A
; EARLIER FILING DATE: 1999-04-22
; EARLIER APPLICATION NUMBER: 09/092,329
; EARLIER FILING DATE: 1998-06-05
; EARLIER APPLICATION NUMBER: 60/048,793
; EARLIER FILING DATE: 1997-06-06
; NUMBER OF SEQ ID NOS: 21
; SOFTWARE: FastSeq for Windows Version 3.0
; SEQ ID NO 6
; LENGTH: 22
; TYPE: DNA
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Synthetic construct
US-09-296-477-6

Query Match 92.7%; Score 20.4; DB 4; Length 22;
Best Local Similarity 95.5%; Pred. No. 0.18;
Matches 21; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

DB 1 TGACTGTGAACGTTCCAGATGA 22
RESULT 18
US-09-791-500-4
; Sequence 4, Application US/09791500
; Patent No. 6613751
; GENERAL INFORMATION:
; APPLICANT: Raz, Eyal
; APPLICANT: Rachmilewitz, Daniel
; TITLE OF INVENTION: Method for Treating Inflammatory Bowel
; TITLE OF INVENTION: Disease and Other Forms of Gastrointestinal Inflammation.
; FILE REFERENCE: 6510-202US1
; CURRENT APPLICATION NUMBER: US/09/791,500
; CURRENT FILING DATE: 2001-02-22
; NUMBER OF SEQ ID NOS: 39
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 4
; LENGTH: 22
; TYPE: DNA
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: synthetic polynucleotide sequence
US-09-791-500-4

Query Match 92.7%; Score 20.4; DB 4; Length 22;
Best Local Similarity 95.5%; Pred. No. 0.18;
Matches 21; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

QY 1 TGACTGTGAACGTTCCAGATGA 22
DB 1 TGACGTGAAAGTTCCAGATGA 22

RESULT 19
US-09-791-500-5
; Sequence 5, Application US/09791500
; Patent No. 6613751
; GENERAL INFORMATION:
; APPLICANT: Raz, Eyal
; APPLICANT: Rachmilewitz, Daniel
; TITLE OF INVENTION: Method for Treating Inflammatory Bowel
; TITLE OF INVENTION: Disease and Other Forms of Gastrointestinal Inflammation.
; FILE REFERENCE: 6510-202US1
; CURRENT APPLICATION NUMBER: US/09/791,500
; CURRENT FILING DATE: 2001-02-22
; NUMBER OF SEQ ID NOS: 39
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 5
; LENGTH: 22
; TYPE: DNA
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: synthetic polynucleotide sequence
US-09-791-500-5

Query Match 92.7%; Score 20.4; DB 4; Length 22;
Best Local Similarity 95.5%; Pred. No. 0.18;
Matches 21; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

QY 1 TGACTGTGAACGTTCCAGATGA 22
DB 1 TGACGTGAAAGTTCCAGATGA 22

RESULT 20
US-09-791-500-6
; Sequence 6, Application US/09791500
; Patent No. 6613751
; GENERAL INFORMATION:
; APPLICANT: Raz, Eyal
; APPLICANT: Rachmilewitz, Daniel
; TITLE OF INVENTION: Method for Treating Inflammatory Bowel

```

; TITLE OF INVENTION: Disease and Other Forms of Gastrointestinal Inflammation.
; FILE REFERENCE: 6510-202US1
; CURRENT APPLICATION NUMBER: US/09/791,500
; CURRENT FILING DATE: 2001-02-22
; NUMBER OF SEQ ID NOS: 39
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 6
; LENGTH: 22
; TYPE: DNA
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: synthetic polynucleotide sequence
US-09-791-500-6

Query Match          92.7%; Score 20.4; DB 4; Length 22;
Best Local Similarity 95.5%; Pred. No. 0.18;
Matches 21; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

Qy 1 TGACTGTGAACGTTGAGATGA 22
    |||||
Db 1 TGACTGTGAACGTTGAGATGA 22

RESULT 21
US-09-296-477-16
; Sequence 16, Application US/09296477A
; Patent No. 6589940
; GENERAL INFORMATION:
; APPLICANT: RAZ, E.
; APPLICANT: SCHWARTZ, D.
; APPLICANT: DINA, D.
; APPLICANT: ROMAN, M.
; TITLE OF INVENTION: IMMUNOSTIMULATORY OLIGONUCLEOTIDES,
; TITLE OF INVENTION: COMPOSITIONS THEREOF AND METHODS OF USE
; FILE REFERENCE: 37782000420
; CURRENT APPLICATION NUMBER: US/09/296,477A
; EARLIER FILING DATE: 1999-04-22
; EARLIER APPLICATION NUMBER: 09/092,329
; EARLIER FILING DATE: 1998-06-05
; EARLIER APPLICATION NUMBER: 60/048,793
; EARLIER FILING DATE: 1997-06-06
; NUMBER OF SEQ ID NOS: 21
; SOFTWARE: FastSeq for Windows Version 3.0
; SEQ ID NO 16
; LENGTH: 22
; TYPE: DNA
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Synthetic construct
; NAME/KEY: modified base
; LOCATION: (11)...(11)
; OTHER INFORMATION: 5-bromocytosine
; NAME/KEY: modified base
; LOCATION: (15)...(15)
; OTHER INFORMATION: 5-bromocytosine
US-09-296-477-16

Query Match          90.9%; Score 20; DB 4; Length 22;
Best Local Similarity 90.9%; Pred. No. 0.28;
Matches 20; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

Qy 1 TGACTGTGAACGTTGAGATGA 22
    |||||
Db 1 TGACTGTGAACGTTGAGATGA 22

RESULT 22
US-09-296-477-12
; Sequence 12, Application US/09296477A
; Patent No. 6589940
```

```

; GENERAL INFORMATION:
; APPLICANT: RAZ, E.
; APPLICANT: SCHWARTZ, D.
; APPLICANT: ROMAN, M.
; APPLICANT: DINA, D.
; TITLE OF INVENTION: IMMUNOSTIMULATORY OLIGONUCLEOTIDES,
; TITLE OF INVENTION: COMPOSITIONS THEREOF AND METHODS OF USE
; FILE REFERENCE: 37782000420
; CURRENT APPLICATION NUMBER: US/09/296,477A
; EARLIER FILING DATE: 1999-04-22
; EARLIER APPLICATION NUMBER: 09/092,329
; EARLIER FILING DATE: 1998-06-05
; EARLIER APPLICATION NUMBER: 60/048,793
; EARLIER FILING DATE: 1997-06-06
; NUMBER OF SEQ ID NOS: 21
; SOFTWARE: FastSeq for Windows Version 3.0
; SEQ ID NO 12
; LENGTH: 22
; TYPE: DNA
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Synthetic construct
; NAME/KEY: modified base
; LOCATION: (11)...(11)
; OTHER INFORMATION: 5-bromocytosine
US-09-296-477-12

Query Match          88.2%; Score 19.4; DB 4; Length 22;
Best Local Similarity 90.9%; Pred. No. 0.58;
Matches 20; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

Qy 1 TGACTGTGAACGTTGAGATGA 22
    |||||
Db 1 TGACTGTGAACGTTGAGATGA 22

RESULT 23
US-09-092-314-1
; Sequence 1, Application US/09092314
; Patent No. 6225292
; GENERAL INFORMATION:
; APPLICANT: RAZ, Eyal
; APPLICANT: Roman, Mark
; TITLE OF INVENTION: Inhibitors of DNA Immunostimulatory
; TITLE OF INVENTION: Sequence Activity
; Patent No. 6225292
; FILE REFERENCE: 6510-173US1
; CURRENT APPLICATION NUMBER: US/09/092,314
; CURRENT FILING DATE: 1998-06-05
; PRIOR APPLICATION NUMBER: 60/048,794
; PRIOR FILING DATE: 1997-06-06
; NUMBER OF SEQ ID NOS: 11
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 1
; LENGTH: 22
; TYPE: DNA
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Oligonucleotide
US-09-092-314-1

Query Match          85.5%; Score 18.8; DB 3; Length 22;
Best Local Similarity 90.9%; Pred. No. 1.2;
Matches 20; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

Qy 1 TGACTGTGAACGTTGAGATGA 22
    |||||
Db 1 TGACTGTGAACGTTGAGATGA 22

RESULT 24
```

```
US-09-092-314-3
; Sequence 3, Application US/09092314
; Patent No. 6225292
; GENERAL INFORMATION:
; APPLICANT: Raz, Eyal
; APPLICANT: Roman, Mark
; TITLE OF INVENTION: Inhibitors of DNA Immunostimulatory
; TITLE OF INVENTION: Sequence Activity
; Patent No. 6225292
; FILE REFERENCE: 6510-173US1
; CURRENT APPLICATION NUMBER: US/09/092,314
; CURRENT FILING DATE: 1998-06-05
; PRIOR APPLICATION NUMBER: 60/048,794
; PRIOR FILING DATE: 1997-06-06
; NUMBER OF SEQ ID NOS: 11
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 3
; LENGTH: 22
; TYPE: DNA
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Oligonucleotide
US-09-092-314-3
```

```
Query Match      85.5%; Score 18.8; DB 3; Length 22;
Best Local Similarity 90.9%; Pred. No. 1.2;
Matches 20; Conservative 0; Mismatches 2; Indels 0; Gaps 0;
```

```
QY      1 TGACTGTGAACGTTGAGATGA 22
         |||||
Db      1 TGACTGTGAACCTTAGAGATGA 22
```

```
RESULT 25
US-09-092-314-10
; Sequence 10, Application US/09092314
; Patent No. 6225292
; GENERAL INFORMATION:
; APPLICANT: Raz, Eyal
; APPLICANT: Roman, Mark
; TITLE OF INVENTION: Inhibitors of DNA Immunostimulatory
; TITLE OF INVENTION: Sequence Activity
; Patent No. 6225292
; FILE REFERENCE: 6510-173US1
; CURRENT APPLICATION NUMBER: US/09/092,314
; CURRENT FILING DATE: 1998-06-05
; PRIOR APPLICATION NUMBER: 60/048,794
; PRIOR FILING DATE: 1997-06-06
; NUMBER OF SEQ ID NOS: 11
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 10
; LENGTH: 22
; TYPE: DNA
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Oligonucleotide
US-09-092-314-10
```

```
Query Match      85.5%; Score 18.8; DB 3; Length 22;
Best Local Similarity 90.9%; Pred. No. 1.2;
Matches 20; Conservative 0; Mismatches 2; Indels 0; Gaps 0;
```

```
QY      1 TGACTGTGAACGTTGAGATGA 22
         |||||
Db      1 TGACTGTGAATGTTAGAGATGA 22
```

```
RESULT 26
US-09-235-742-20
; Sequence 20, Application US/09235742
; Patent No. 6498148
; GENERAL INFORMATION:
; APPLICANT: Raz, Eyal
```

```
; TITLE OF INVENTION: Immunization-Free Methods for Treating
; TITLE OF INVENTION: Antigen-Stimulated Inflammation in a Mammalian Host and
; TITLE OF INVENTION: Shifting the Host's Antigen Immune Responsiveness to a TH1
; TITLE OF INVENTION: Phenocopy
; FILE REFERENCE: 6510-170CON4
; CURRENT APPLICATION NUMBER: US/09/235,742
; CURRENT FILING DATE: 1999-01-21
; EARLIER APPLICATION NUMBER: 08/927,120
; EARLIER FILING DATE: 1997-09-05
; EARLIER APPLICATION NUMBER: 08/593,554
; EARLIER FILING DATE: 1996-01-30
; EARLIER APPLICATION NUMBER: 08/725,968
; EARLIER FILING DATE: 1996-10-04
; EARLIER APPLICATION NUMBER: 60/028,118
; EARLIER FILING DATE: 1996-10-11
; NUMBER OF SEQ ID NOS: 20
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 20
; LENGTH: 22
; TYPE: DNA
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Recombinant or Synthetic Sequence
US-09-235-742-20
```

```
Query Match      85.5%; Score 18.8; DB 4; Length 22;
Best Local Similarity 90.9%; Pred. No. 1.2;
Matches 20; Conservative 0; Mismatches 2; Indels 0; Gaps 0;
```

```
QY      1 TGACTGTGAACGTTGAGATGA 22
         |||||
Db      1 TGACTGTGAAGGTTGAGATGA 22
```

```
RESULT 27
US-09-347-343-33
; Sequence 33, Application US/09347343A
; Patent No. 6514948
; GENERAL INFORMATION:
; APPLICANT: RAZ, Eyal R.
; APPLICANT: KOBAYASHI, Hiroko
; TITLE OF INVENTION: METHOD FOR ENHANCING AN IMMUNE RESPONSE
; FILE REFERENCE: 30448.64US01
; CURRENT APPLICATION NUMBER: US/09/347,343A
; CURRENT FILING DATE: 1999-07-02
; NUMBER OF SEQ ID NOS: 40
; SOFTWARE: FastSeq for Windows Version 3.0
; SEQ ID NO 33
; LENGTH: 22
; TYPE: DNA
; ORGANISM: synthetic oligonucleotide
US-09-347-343-33
```

```
Query Match      85.5%; Score 18.8; DB 4; Length 22;
Best Local Similarity 90.9%; Pred. No. 1.2;
Matches 20; Conservative 0; Mismatches 2; Indels 0; Gaps 0;
```

```
QY      1 TGACTGTGAACGTTGAGATGA 22
         |||||
Db      1 TGACTGTGAACCTTAGAGATGA 22
```

```
RESULT 28
US-09-820-484-7
; Sequence 7, Application US/09820484
; Patent No. 6534062
; GENERAL INFORMATION:
; APPLICANT: Raz, Eyal
; APPLICANT: Cho, Hearn Jay
; APPLICANT: Richman, Douglas
; APPLICANT: Horner, Anthony A.
; TITLE OF INVENTION: Method for Increasing a Cytotoxic T
; TITLE OF INVENTION: Lymphocyte Response in vivo.
```



```
FILE REFERENCE: 06510-188US1
CURRENT APPLICATION NUMBER: US/09/820,484
CURRENT FILING DATE: 2001-03-28
PRIOR APPLICATION NUMBER: US 60/192,537
PRIOR FILING DATE: 2000-03-28
PRIOR APPLICATION NUMBER: US 60/203,567
PRIOR FILING DATE: 2000-05-11
PRIOR APPLICATION NUMBER: US 60/215,895
PRIOR FILING DATE: 2000-07-05
NUMBER OF SEQ ID NOS: 8
SOFTWARE: FastSeq for Windows Version 4.0
SEQ ID NO 7
LENGTH: 22
TYPE: DNA
ORGANISM: Artificial Sequence
FEATURE:
OTHER INFORMATION: MODN
US-09-820-484-7
```

```
Query Match      85.5%; Score 18.8; DB 4; Length 22;
Best Local Similarity 90.9%; Pred. No. 1.2;
Matches 20; Conservative 0; Mismatches 2; Indels 0; Gaps 0;
```

```
QY 1 TGACTGTGAACGTTGAGATGA 22
    |||||
DB 1 TGACTGTGAACGTTAGAGATGA 22
```

```
RESULT 29
US-09-774-403A-3
Sequence 3, Application US/09774403A
Patent No. 6552006
GENERAL INFORMATION:
APPLICANT: Byal Raz
APPLICANT: Richard Kornbluth
APPLICANT: Antonio Catanzaro
APPLICANT: Tomoko Hayashi
APPLICANT: Dennis Carson
TITLE OF INVENTION: Immunomodulatory Polynucleotides in
TITLE OF INVENTION: Treatment of Infection by an Intracellular Pathogen
FILE REFERENCE: UCAL166
CURRENT APPLICATION NUMBER: US/09/774,403A
CURRENT FILING DATE: 2002-04-15
PRIOR APPLICATION NUMBER: 60/179,353
PRIOR FILING DATE: 2000-01-31
NUMBER OF SEQ ID NOS: 7
SOFTWARE: FastSeq for Windows Version 4.0
SEQ ID NO 3
LENGTH: 22
TYPE: DNA
ORGANISM: Artificial Sequence
FEATURE:
OTHER INFORMATION: Control sequence
US-09-774-403A-3
```

```
Query Match      85.5%; Score 18.8; DB 4; Length 22;
Best Local Similarity 90.9%; Pred. No. 1.2;
Matches 20; Conservative 0; Mismatches 2; Indels 0; Gaps 0;
```

```
QY 1 TGACTGTGAACGTTGAGATGA 22
    |||||
DB 1 TGACTGTGAAGGTTAGAGATGA 22
```

```
RESULT 30
US-09-296-477-3
Sequence 3, Application US/09296477A
Patent No. 6589940
GENERAL INFORMATION:
APPLICANT: RAZ, E.
APPLICANT: SCHWARTZ, D.
APPLICANT: ROMAN, M.
APPLICANT: DINN, D.
```

```
TITLE OF INVENTION: IMMUNOSTIMULATORY OLIGONUCLEOTIDES,
TITLE OF INVENTION: COMPOSITIONS THEREOF AND METHODS OF USE
TITLE OF INVENTION: THEREOF
FILE REFERENCE: 37782000420
CURRENT APPLICATION NUMBER: US/09/296,477A
CURRENT FILING DATE: 1999-04-22
EARLIER APPLICATION NUMBER: 09/092,329
EARLIER FILING DATE: 1998-06-05
EARLIER APPLICATION NUMBER: 60/048,793
EARLIER FILING DATE: 1997-06-06
NUMBER OF SEQ ID NOS: 21
SOFTWARE: FastSeq for Windows Version 3.0
SEQ ID NO 3
LENGTH: 22
TYPE: DNA
ORGANISM: Artificial Sequence
FEATURE:
OTHER INFORMATION: Synthetic construct
US-09-296-477-3
```

```
Query Match      85.5%; Score 18.8; DB 4; Length 22;
Best Local Similarity 90.9%; Pred. No. 1.2;
Matches 20; Conservative 0; Mismatches 2; Indels 0; Gaps 0;
```

```
QY 1 TGACTGTGAACGTTGAGATGA 22
    |||||
DB 1 TGACTGTGAAGGTTAGAGATGA 22
```

```
RESULT 31
US-09-296-477-8
Sequence 8, Application US/09296477A
Patent No. 6589940
GENERAL INFORMATION:
APPLICANT: RAZ, E.
APPLICANT: SCHWARTZ, D.
APPLICANT: ROMAN, M.
APPLICANT: DINN, D.
TITLE OF INVENTION: IMMUNOSTIMULATORY OLIGONUCLEOTIDES,
TITLE OF INVENTION: COMPOSITIONS THEREOF AND METHODS OF USE
TITLE OF INVENTION: THEREOF
FILE REFERENCE: 37782000420
CURRENT APPLICATION NUMBER: US/09/296,477A
CURRENT FILING DATE: 1999-04-22
EARLIER APPLICATION NUMBER: 09/092,329
EARLIER FILING DATE: 1998-06-05
EARLIER APPLICATION NUMBER: 60/048,793
EARLIER FILING DATE: 1997-06-06
NUMBER OF SEQ ID NOS: 21
SOFTWARE: FastSeq for Windows Version 3.0
SEQ ID NO 8
LENGTH: 22
TYPE: DNA
ORGANISM: Artificial Sequence
FEATURE:
OTHER INFORMATION: Synthetic construct
US-09-296-477-8
```

```
Query Match      85.5%; Score 18.8; DB 4; Length 22;
Best Local Similarity 90.9%; Pred. No. 1.2;
Matches 20; Conservative 0; Mismatches 2; Indels 0; Gaps 0;
```

```
QY 1 TGACTGTGAACGTTGAGATGA 22
    |||||
DB 1 TGACTGTGAAGGTTAGAGATGA 22
```

```
RESULT 32
US-09-308-036A-2
Sequence 2, Application US/09308036A
Patent No. 6610661
GENERAL INFORMATION:
APPLICANT: Carson, Dennis A.
```

```
/ APPLICANT: Raz, Eyal
/ APPLICANT: Roman, Mark
/ TITLE OF INVENTION: Immunostimulatory
/ TITLE OF INVENTION: Polynucleotide/Immunomodulatory Molecule Conjugates
/ FILE REFERENCE: 6510-172CIP
/ CURRENT APPLICATION NUMBER: US/09/308,036A
/ CURRENT FILING DATE: 2000-02-16
/ PRIOR APPLICATION NUMBER: PCT/US97/19004
/ PRIOR FILING DATE: 1997-10-09
/ PRIOR APPLICATION NUMBER: 60/028,118
/ PRIOR FILING DATE: 1996-10-11
/ NUMBER OF SEQ ID NOS: 2
/ SOFTWARE: FastSeq for Windows Version 4.0
/ SEQ ID NO 2
/ LENGTH: 22
/ TYPE: DNA
/ ORGANISM: Artificial Sequence
/ FEATURE:
/ OTHER INFORMATION: D41019 polynucleotide
US-09-308-036A-2
```

```
Query Match      85.5%; Score 18.8; DB 4; Length 22;
Best Local Similarity 90.9%; Pred. No. 1.2;
Matches 20; Conservative 0; Mismatches 2; Indels 0; Gaps 0;
```

```
QY      1 TGACTGTGAACGTTGAGATGA 22
      |||||
Db      1 TGACTGTGAAGTTGAGATGA 22
```

```
RESULT 33
US-09-791-500-3
/ Sequence 3, Application US/09791500
/ Patent No. 6613751
/ GENERAL INFORMATION:
/ APPLICANT: Raz, Eyal
/ APPLICANT: Rachmlilewitz, Daniel
/ TITLE OF INVENTION: Method for Treating Inflammatory Bowel
/ TITLE OF INVENTION: Disease and Other Forms of Gastrointestinal Inflammation.
/ FILE REFERENCE: 6510-202US1
/ CURRENT APPLICATION NUMBER: US/09/791,500
/ CURRENT FILING DATE: 2001-02-22
/ NUMBER OF SEQ ID NOS: 39
/ SOFTWARE: FastSeq for Windows Version 4.0
/ SEQ ID NO 3
/ LENGTH: 22
/ TYPE: DNA
/ ORGANISM: Artificial Sequence
/ FEATURE:
/ OTHER INFORMATION: synthetic polynucleotide sequence
US-09-791-500-3
```

```
Query Match      85.5%; Score 18.8; DB 4; Length 22;
Best Local Similarity 90.9%; Pred. No. 1.2;
Matches 20; Conservative 0; Mismatches 2; Indels 0; Gaps 0;
```

```
QY      1 TGACTGTGAACGTTGAGATGA 22
      |||||
Db      1 TGACTGTGAACCTTAGAGATGA 22
```

```
RESULT 34
US-09-791-500-8
/ Sequence 8, Application US/09791500
/ Patent No. 6613751
/ GENERAL INFORMATION:
/ APPLICANT: Raz, Eyal
/ APPLICANT: Rachmlilewitz, Daniel
/ TITLE OF INVENTION: Method for Treating Inflammatory Bowel
/ TITLE OF INVENTION: Disease and Other Forms of Gastrointestinal Inflammation.
/ FILE REFERENCE: 6510-202US1
/ CURRENT APPLICATION NUMBER: US/09/791,500
/ CURRENT FILING DATE: 2001-02-22
```

```
/ NUMBER OF SEQ ID NOS: 39
/ SOFTWARE: FastSeq for Windows Version 4.0
/ SEQ ID NO 8
/ LENGTH: 22
/ TYPE: DNA
/ ORGANISM: Artificial Sequence
/ FEATURE:
/ OTHER INFORMATION: synthetic polynucleotide sequence
US-09-791-500-8
```

```
Query Match      85.5%; Score 18.8; DB 4; Length 22;
Best Local Similarity 90.9%; Pred. No. 1.2;
Matches 20; Conservative 0; Mismatches 2; Indels 0; Gaps 0;
```

```
QY      1 TGACTGTGAACGTTGAGATGA 22
      |||||
Db      1 TGACTGTGATGTTAGAGATGA 22
```

```
RESULT 35
US-09-092-314-4
/ Sequence 4, Application US/09092314
/ Patent No. 6225292
/ GENERAL INFORMATION:
/ APPLICANT: Raz, Eyal
/ APPLICANT: Roman, Mark
/ TITLE OF INVENTION: Inhibitors of DNA Immunostimulatory
/ TITLE OF INVENTION: Sequence Activity
/ FILE REFERENCE: 6510-173US1
/ CURRENT APPLICATION NUMBER: US/09/092,314
/ CURRENT FILING DATE: 1998-06-05
/ PRIOR APPLICATION NUMBER: 60/048,794
/ PRIOR FILING DATE: 1997-06-06
/ NUMBER OF SEQ ID NOS: 11
/ SOFTWARE: FastSeq for Windows Version 4.0
/ SEQ ID NO 4
/ LENGTH: 22
/ TYPE: DNA
/ ORGANISM: Artificial Sequence
/ FEATURE:
/ OTHER INFORMATION: Oligonucleotide
US-09-092-314-4
```

```
Query Match      78.2%; Score 17.2; DB 3; Length 22;
Best Local Similarity 86.4%; Pred. No. 7.8;
Matches 19; Conservative 0; Mismatches 3; Indels 0; Gaps 0;
```

```
QY      1 TGACTGTGAACGTTGAGATGA 22
      |||||
Db      1 TGACTGTGAACCTTAGAGATGA 22
```

```
RESULT 36
US-09-296-477-9
/ Sequence 9, Application US/09296477A
/ Patent No. 6589940
/ GENERAL INFORMATION:
/ APPLICANT: RAZ, E.
/ APPLICANT: SCHWARTZ, D.
/ APPLICANT: ROMAN, M.
/ APPLICANT: DINA, D.
/ TITLE OF INVENTION: IMMUNOSTIMULATORY OLIGONUCLEOTIDES,
/ TITLE OF INVENTION: COMPOSITIONS THEREOF AND METHODS OF USE
/ FILE REFERENCE: 37788200420
/ CURRENT APPLICATION NUMBER: US/09/296,477A
/ CURRENT FILING DATE: 1999-04-22
/ EARLIER APPLICATION NUMBER: 09/092,329
/ EARLIER FILING DATE: 1998-06-05
/ EARLIER APPLICATION NUMBER: 60/048,793
/ EARLIER FILING DATE: 1997-06-06
/ NUMBER OF SEQ ID NOS: 21
```

SOFTWARE: FastSeq for Windows Version 3.0
SEQ ID NO 9
LENGTH: 22
TYPE: DNA
ORGANISM: Artificial Sequence
FEATURE:
OTHER INFORMATION: Synthetic construct
US-09-296-477-9

Query Match 78.2%; Score 17.2; DB 4; Length 22;
Best Local Similarity 86.4%; Pred. No. 7.8;
Matches 19; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

Qy 1 TGAAGTGAACGTTGAGATGA 22
|||||
Db 1 TGAAGTGAACGTTGAGATGA 22

RESULT 37
US-09-296-477-13
Sequence 13, Application US/09296477A
Patent No. 6589940
GENERAL INFORMATION:
APPLICANT: RAZ, E.
APPLICANT: SCHWARTZ, D.
APPLICANT: ROMAN, M.
APPLICANT: DIANA, D.
TITLE OF INVENTION: IMMUNOSTIMULATORY OLIGONUCLEOTIDES,
TITLE OF INVENTION: COMPOSITIONS THEREOF AND METHODS OF USE
TITLE OF INVENTION: THEREOF
FILE REFERENCE: 37788200420
CURRENT APPLICATION NUMBER: US/09/296,477A
CURRENT FILING DATE: 1999-04-22
EARLIER APPLICATION NUMBER: 09/092,329
EARLIER FILING DATE: 1998-06-05
EARLIER APPLICATION NUMBER: 60/048,793
EARLIER FILING DATE: 1997-06-06
NUMBER OF SEQ ID NOS: 21
SOFTWARE: FastSeq for Windows Version 3.0
SEQ ID NO 13
LENGTH: 22
TYPE: DNA
ORGANISM: Artificial Sequence
FEATURE:
OTHER INFORMATION: Synthetic construct
US-09-296-477-13

Query Match 78.2%; Score 17.2; DB 4; Length 22;
Best Local Similarity 86.4%; Pred. No. 7.8;
Matches 19; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

Qy 1 TGAAGTGAACGTTGAGATGA 22
|||||
Db 1 TGAAGTGAACGTTGAGATGA 22

RESULT 38
US-09-791-500-9
Sequence 9, Application US/09791500
Patent No. 6613751
GENERAL INFORMATION:
APPLICANT: RAZ, Eyal
APPLICANT: Rachmliwicz, Daniel
TITLE OF INVENTION: Method for Treating Inflammatory Bowel
Disease and Other Forms of Gastrointestinal Inflammation.
FILE REFERENCE: 6510-2020U1
CURRENT APPLICATION NUMBER: US/09/791,500
CURRENT FILING DATE: 2001-02-22
NUMBER OF SEQ ID NOS: 39
SOFTWARE: FastSeq for Windows Version 4.0
SEQ ID NO 9
LENGTH: 22
TYPE: DNA

ORGANISM: Artificial Sequence
FEATURE:
OTHER INFORMATION: synthetic polynucleotide sequence
US-09-791-500-9

Query Match 78.2%; Score 17.2; DB 4; Length 22;
Best Local Similarity 86.4%; Pred. No. 7.8;
Matches 19; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

Qy 1 TGAAGTGAACGTTGAGATGA 22
|||||
Db 1 TGAAGTGAACGTTGAGATGA 22

RESULT 39
US-09-092-314-5
Sequence 5, Application US/09092314
Patent No. 6225292
GENERAL INFORMATION:
APPLICANT: RAZ, Eyal
APPLICANT: Roman, Mark
TITLE OF INVENTION: Inhibitors of DNA Immunostimulatory
Sequence Activity
Patent No. 6225292
FILE REFERENCE: 6510-1730U1
CURRENT APPLICATION NUMBER: US/09/092,314
CURRENT FILING DATE: 1998-06-05
PRIOR APPLICATION NUMBER: 60/048,794
PRIOR FILING DATE: 1997-06-06
NUMBER OF SEQ ID NOS: 11
SOFTWARE: FastSeq for Windows Version 4.0
SEQ ID NO 5
LENGTH: 22
TYPE: DNA
ORGANISM: Artificial Sequence
FEATURE:
OTHER INFORMATION: Oligonucleotide
US-09-092-314-5

Query Match 70.9%; Score 15.6; DB 3; Length 22;
Best Local Similarity 81.8%; Pred. No. 52;
Matches 18; Conservative 0; Mismatches 4; Indels 0; Gaps 0;

Qy 1 TGAAGTGAACGTTGAGATGA 22
|||||
Db 1 TGAAGTGAACGTTGAGATGA 22

RESULT 40
US-09-092-314-7
Sequence 7, Application US/09092314
Patent No. 6225292
GENERAL INFORMATION:
APPLICANT: RAZ, Eyal
APPLICANT: Roman, Mark
TITLE OF INVENTION: Inhibitors of DNA Immunostimulatory
Sequence Activity
Patent No. 6225292
FILE REFERENCE: 6510-1730U1
CURRENT APPLICATION NUMBER: US/09/092,314
CURRENT FILING DATE: 1998-06-05
PRIOR APPLICATION NUMBER: 60/048,794
PRIOR FILING DATE: 1997-06-06
NUMBER OF SEQ ID NOS: 11
SOFTWARE: FastSeq for Windows Version 4.0
SEQ ID NO 7
LENGTH: 22
TYPE: DNA
ORGANISM: Artificial Sequence
FEATURE:
OTHER INFORMATION: Oligonucleotide
US-09-092-314-7

Query Match 70.9%; Score 15.6; DB 3; Length 22;
Best Local Similarity 81.8%; Pred. No. 52;
Matches 18; Conservative 0; Mismatches 4; Indels 0; Gaps 0;

QY 1 TGACTGTGAACGTTGAGATGA 22
Db 1 TGACTGTGAGGTCAGAGATGA 22

Search completed: October 30, 2004, 19:26:13
Job time : 69 secs

GenCore version 5.1.6
Copyright (c) 1993 - 2004 Comphen Ltd.

OM nucleic - nucleic search, using sw model

Run on: October 30, 2004, 19:00:42 ; Search time 215 Seconds
(without alignments)
524.685 Million cell updates/sec

Title: US-09-802-376-1
Perfect score: 22
Sequence: 1 tGactGtcGacgtcGagatga 22

Scoring table: IDENTITY NUC
Gapop 10.0 , Gapext 1.0

Searched: 3413475 seqs, 2563800928 residues

Total number of hits satisfying chosen parameters: 2136562

Minimum DB seq length: 0
Maximum DB seq length: 100

Post-Processing: Minimum Match 0%
Maximum Match 100%
Listing first 1000 summaries

Database : Published Applications_NA.*

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5: /cgn2_6/ptodata/1/pubpna/US07_NEW_PUB.seq:*
6: /cgn2_6/ptodata/1/pubpna/PCTUS_PUBCOMB.seq:*
7: /cgn2_6/ptodata/1/pubpna/US08_NEW_PUB.seq:*
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10: /cgn2_6/ptodata/1/pubpna/US09B_PUBCOMB.seq:*
11: /cgn2_6/ptodata/1/pubpna/US09C_PUBCOMB.seq:*
12: /cgn2_6/ptodata/1/pubpna/US09_NEW_PUB.seq:*
13: /cgn2_6/ptodata/1/pubpna/US10A_PUBCOMB.seq:*
14: /cgn2_6/ptodata/1/pubpna/US10B_PUBCOMB.seq:*
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18: /cgn2_6/ptodata/1/pubpna/US11_NEW_PUB.seq:*
19: /cgn2_6/ptodata/1/pubpna/US11_NEW_PUB.seq:*
20: /cgn2_6/ptodata/1/pubpna/US60_NEW_PUB.seq:*
21: /cgn2_6/ptodata/1/pubpna/US60_PUBCOMB.seq:*
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Pred. No. is the number of results predicted by chance to have a
score greater than or equal to the score of the result being printed,
and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	ID	Description
1	22	100.0	22	9	US-09-802-686-1
2	22	100.0	22	9	US-09-802-685-1
3	22	100.0	22	9	US-09-791-500-1
4	22	100.0	22	9	US-09-802-376-1
5	22	100.0	22	9	US-09-774-403A-1
6	22	100.0	22	9	US-09-802-370-1
7	22	100.0	22	9	US-09-802-445-1
8	22	100.0	22	9	US-09-820-484-1
9	22	100.0	22	9	US-09-820-484-3
10	22	100.0	22	9	US-09-828-505-1
11	22	100.0	22	9	US-09-967-881-2
12	22	100.0	22	10	US-09-927-422A-1

13	22	100.0	22	10	US-09-738-046A-3	Sequence 3, Appli
14	22	100.0	22	10	US-09-927-884-1	Sequence 1, Appli
15	22	100.0	22	10	US-09-802-359-1	Sequence 1, Appli
16	22	100.0	22	10	US-09-967-464-19	Sequence 19, Appli
17	22	100.0	22	10	US-09-848-986-1	Sequence 4, Appli
18	22	100.0	22	14	US-10-056-420-4	Sequence 4, Appli
19	22	100.0	22	14	US-10-033-243-2	Sequence 2, Appli
20	22	100.0	22	14	US-10-033-243-40	Sequence 40, Appli
21	22	100.0	22	14	US-10-033-243-59	Sequence 59, Appli
22	22	100.0	22	14	US-10-214-288-1	Sequence 1, Appli
23	22	100.0	22	14	US-10-099-512-1	Sequence 1, Appli
24	22	100.0	22	14	US-10-229-208-19	Sequence 19, Appli
25	22	100.0	22	15	US-10-253-117-32	Sequence 32, Appli
26	22	100.0	22	15	US-10-233-121A-1	Sequence 1, Appli
27	22	100.0	22	15	US-10-219-143-1	Sequence 1, Appli
28	22	100.0	22	15	US-10-214-799-2	Sequence 2, Appli
29	22	100.0	22	15	US-10-340-275-1	Sequence 1, Appli
30	22	100.0	22	15	US-10-340-275-3	Sequence 3, Appli
31	22	100.0	22	15	US-10-339-885-1	Sequence 1, Appli
32	22	100.0	22	15	US-10-339-885-3	Sequence 3, Appli
33	22	100.0	22	15	US-10-176-883-2	Sequence 2, Appli
34	22	100.0	22	15	US-10-176-883-24	Sequence 24, Appli
35	22	100.0	22	15	US-10-176-883-79	Sequence 79, Appli
36	22	100.0	22	15	US-10-176-883-134	Sequence 134, App
37	22	100.0	22	15	US-10-412-151-1	Sequence 1, Appli
38	22	100.0	22	15	US-10-177-826-2	Sequence 2, Appli
39	22	100.0	22	15	US-10-177-826-24	Sequence 24, Appli
40	22	100.0	22	15	US-10-177-826-79	Sequence 79, Appli
41	22	100.0	22	15	US-10-177-826-134	Sequence 134, App
42	22	100.0	22	15	US-10-353-917-1	Sequence 1, Appli
43	22	100.0	22	15	US-10-357-760-1	Sequence 1, Appli
44	22	100.0	22	15	US-10-328-578-2	Sequence 2, Appli
45	22	100.0	22	15	US-10-328-578-24	Sequence 24, Appli
46	22	100.0	22	15	US-10-328-578-79	Sequence 79, Appli
47	22	100.0	22	15	US-10-394-082-1	Sequence 1, Appli
48	22	100.0	22	16	US-10-394-337-1	Sequence 1, Appli
49	22	100.0	22	16	US-10-413-504-2	Sequence 2, Appli
50	22	100.0	22	16	US-10-426-237-1	Sequence 1, Appli
51	22	100.0	22	16	US-10-365-678-1	Sequence 1, Appli
52	22	100.0	22	17	US-10-623-371-2	Sequence 2, Appli
53	22	100.0	22	17	US-10-623-371-24	Sequence 24, Appli
54	22	100.0	22	17	US-10-623-371-79	Sequence 79, Appli
55	22	100.0	22	17	US-10-739-518-24	Sequence 24, Appli
56	22	100.0	22	17	US-10-739-518-79	Sequence 79, Appli
57	22	100.0	22	17	US-10-739-518-86	Sequence 86, Appli
58	22	100.0	22	17	US-10-739-518-87	Sequence 87, Appli
59	22	100.0	22	17	US-10-739-518-134	Sequence 134, App
60	22	100.0	22	17	US-10-739-518-141	Sequence 141, App
61	22	100.0	22	17	US-10-739-518-143	Sequence 143, App
62	22	100.0	22	17	US-10-704-229-5	Sequence 5, Appli
63	22	100.0	22	17	US-10-735-582-3	Sequence 3, Appli
64	22	100.0	22	17	US-10-735-582-4	Sequence 4, Appli
65	22	100.0	22	17	US-10-735-582-24	Sequence 24, Appli
66	22	100.0	22	15	US-10-176-883-139	Sequence 139, App
67	22	100.0	22	15	US-10-177-826-139	Sequence 139, App
68	22	100.0	22	15	US-10-328-578-139	Sequence 139, App
69	22	100.0	22	17	US-10-623-371-139	Sequence 139, App
70	22	100.0	22	16	US-10-413-504-15	Sequence 15, App
71	22	96.4	22	17	US-10-739-518-59	Sequence 59, Appli
72	22	96.4	22	17	US-10-739-518-76	Sequence 76, Appli
73	22	95.5	22	9	US-09-802-686-7	Sequence 7, Appli
74	22	95.5	22	9	US-09-802-685-7	Sequence 7, Appli
75	22	95.5	22	9	US-09-802-376-7	Sequence 7, Appli
76	22	95.5	22	9	US-09-802-370-7	Sequence 7, Appli
77	22	95.5	22	9	US-09-927-422A-7	Sequence 7, Appli
78	22	95.5	22	10	US-09-927-884-7	Sequence 7, Appli
79	22	95.5	22	10	US-09-802-359-7	Sequence 7, Appli
80	22	95.5	22	14	US-10-033-243-31	Sequence 31, Appli
81	22	95.5	22	14	US-10-033-243-37	Sequence 37, Appli
82	22	95.5	22	14	US-10-033-243-41	Sequence 41, Appli
83	22	95.5	22	14	US-10-033-243-47	Sequence 47, Appli
84	22	95.5	22	14	US-10-176-883-69	Sequence 69, Appli
85	22	95.5	22	15		

86	21	95.5	22	15	US-10-176-883-76	Sequence 76, Appl	159	20.4	92.7	22	15	US-10-426-237-4	Sequence 4, Appl
87	21	95.5	22	15	US-10-176-883-80	Sequence 80, Appl	160	20.4	92.7	22	17	US-10-739-518-77	Sequence 77, Appl
88	21	95.5	22	15	US-10-176-883-86	Sequence 86, Appl	161	20	90.9	22	9	US-09-802-686-8	Sequence 8, Appl
89	21	95.5	22	15	US-10-176-883-140	Sequence 140, App	162	20	90.9	22	9	US-09-802-685-8	Sequence 8, Appl
90	21	95.5	22	15	US-10-176-883-141	Sequence 141, App	163	20	90.9	22	9	US-09-802-376-8	Sequence 8, Appl
91	21	95.5	22	15	US-10-177-826-69	Sequence 69, Appl	164	20	90.9	22	9	US-09-802-370-8	Sequence 8, Appl
92	21	95.5	22	15	US-10-177-826-76	Sequence 76, Appl	165	20	90.9	22	9	US-09-802-445-8	Sequence 8, Appl
93	21	95.5	22	15	US-10-177-826-80	Sequence 80, Appl	166	20	90.9	22	10	US-09-927-422A-8	Sequence 8, Appl
94	21	95.5	22	15	US-10-177-826-86	Sequence 86, Appl	167	20	90.9	22	10	US-09-927-884-8	Sequence 8, Appl
95	21	95.5	22	15	US-10-177-826-140	Sequence 140, App	168	20	90.9	22	10	US-09-802-359-8	Sequence 8, Appl
96	21	95.5	22	15	US-10-177-826-141	Sequence 141, App	169	20	90.9	22	14	US-10-033-243-8	Sequence 48, Appl
97	21	95.5	22	15	US-10-357-760-7	Sequence 7, Appl	170	20	90.9	22	14	US-10-033-243-78	Sequence 38, Appl
98	21	95.5	22	15	US-10-328-578-69	Sequence 69, Appl	171	20	90.9	22	15	US-10-176-883-87	Sequence 77, Appl
99	21	95.5	22	15	US-10-328-578-76	Sequence 76, Appl	172	20	90.9	22	15	US-10-177-826-77	Sequence 87, Appl
100	21	95.5	22	15	US-10-328-578-80	Sequence 80, Appl	173	20	90.9	22	15	US-10-177-826-87	Sequence 87, Appl
101	21	95.5	22	15	US-10-328-578-86	Sequence 86, Appl	174	20	90.9	22	15	US-10-177-826-87	Sequence 87, Appl
102	21	95.5	22	15	US-10-328-578-134	Sequence 134, App	175	20	90.9	22	15	US-10-357-760-8	Sequence 8, Appl
103	21	95.5	22	15	US-10-328-578-135	Sequence 135, App	176	20	90.9	22	15	US-10-328-578-77	Sequence 77, Appl
104	21	95.5	22	16	US-10-426-237-7	Sequence 7, Appl	177	20	90.9	22	15	US-10-328-578-87	Sequence 87, Appl
105	21	95.5	22	16	US-10-365-678-5	Sequence 5, Appl	178	20	90.9	22	16	US-10-426-237-8	Sequence 8, Appl
106	21	95.5	22	17	US-10-623-371-69	Sequence 69, Appl	179	20	90.9	22	16	US-10-365-678-6	Sequence 6, Appl
107	21	95.5	22	17	US-10-623-371-76	Sequence 76, Appl	180	20	90.9	22	17	US-10-623-371-77	Sequence 77, Appl
108	21	95.5	22	17	US-10-623-371-80	Sequence 80, Appl	181	20	90.9	22	17	US-10-623-371-87	Sequence 87, Appl
109	21	95.5	22	17	US-10-623-371-86	Sequence 86, Appl	182	19.6	89.1	22	16	US-10-413-504-12	Sequence 12, Appl
110	21	95.5	22	17	US-10-623-371-134	Sequence 134, App	183	19.6	89.1	22	17	US-10-739-518-78	Sequence 78, Appl
111	21	95.5	22	17	US-10-623-371-135	Sequence 135, App	184	19.4	88.2	22	9	US-09-802-686-6	Sequence 6, Appl
112	20.4	92.7	22	9	US-09-802-686-2	Sequence 2, Appl	185	19.4	88.2	22	9	US-09-802-685-6	Sequence 6, Appl
113	20.4	92.7	22	9	US-09-802-685-2	Sequence 2, Appl	186	19.4	88.2	22	9	US-09-802-370-6	Sequence 6, Appl
114	20.4	92.7	22	9	US-09-802-685-4	Sequence 4, Appl	187	19.4	88.2	22	9	US-09-802-370-6	Sequence 6, Appl
115	20.4	92.7	22	9	US-09-802-685-4	Sequence 4, Appl	188	19.4	88.2	22	9	US-09-802-445-6	Sequence 6, Appl
116	20.4	92.7	22	9	US-09-791-500-4	Sequence 4, Appl	189	19.4	88.2	22	10	US-09-927-884-6	Sequence 6, Appl
117	20.4	92.7	22	9	US-09-791-500-5	Sequence 5, Appl	190	19.4	88.2	22	10	US-09-802-359-6	Sequence 39, Appl
118	20.4	92.7	22	9	US-09-791-500-6	Sequence 6, Appl	191	19.4	88.2	22	14	US-10-033-243-39	Sequence 39, Appl
119	20.4	92.7	22	9	US-09-802-376-2	Sequence 2, Appl	192	19.4	88.2	22	15	US-10-233-121A-11	Sequence 11, Appl
120	20.4	92.7	22	9	US-09-802-376-4	Sequence 4, Appl	193	19.4	88.2	22	15	US-10-176-883-78	Sequence 78, Appl
121	20.4	92.7	22	9	US-09-774-403A-2	Sequence 2, Appl	194	19.4	88.2	22	15	US-10-177-826-78	Sequence 78, Appl
122	20.4	92.7	22	9	US-09-770-943-2	Sequence 2, Appl	195	19.4	88.2	22	15	US-10-177-826-78	Sequence 78, Appl
123	20.4	92.7	22	9	US-09-802-370-2	Sequence 2, Appl	196	19.4	88.2	22	15	US-10-357-760-6	Sequence 6, Appl
124	20.4	92.7	22	9	US-09-802-370-4	Sequence 4, Appl	197	19.4	88.2	22	15	US-10-328-578-78	Sequence 78, Appl
125	20.4	92.7	22	9	US-09-802-445-2	Sequence 2, Appl	198	19.4	88.2	22	16	US-10-426-237-6	Sequence 6, Appl
126	20.4	92.7	22	9	US-09-802-445-4	Sequence 4, Appl	199	19.4	88.2	22	16	US-10-365-678-2	Sequence 2, Appl
127	20.4	92.7	22	9	US-09-820-484-2	Sequence 2, Appl	200	19.4	88.2	22	17	US-10-623-371-78	Sequence 78, Appl
128	20.4	92.7	22	9	US-09-820-484-6	Sequence 6, Appl	201	19	86.4	22	17	US-10-735-592-5	Sequence 5, Appl
129	20.4	92.7	22	9	US-09-828-505-2	Sequence 2, Appl	202	19	86.4	25	17	US-10-735-592-23	Sequence 23, Appl
130	20.4	92.7	22	9	US-09-967-881-3	Sequence 3, Appl	203	18.8	85.5	22	9	US-09-802-686-9	Sequence 9, Appl
131	20.4	92.7	22	10	US-09-927-422A-2	Sequence 2, Appl	204	18.8	85.5	22	9	US-09-802-685-9	Sequence 9, Appl
132	20.4	92.7	22	10	US-09-927-422A-4	Sequence 4, Appl	205	18.8	85.5	22	9	US-09-802-685-12	Sequence 12, Appl
133	20.4	92.7	22	10	US-09-927-884-4	Sequence 4, Appl	206	18.8	85.5	22	9	US-09-791-500-3	Sequence 3, Appl
134	20.4	92.7	22	10	US-09-927-884-4	Sequence 4, Appl	207	18.8	85.5	22	9	US-09-791-500-8	Sequence 8, Appl
135	20.4	92.7	22	10	US-09-802-359-2	Sequence 2, Appl	208	18.8	85.5	22	9	US-09-802-376-9	Sequence 9, Appl
136	20.4	92.7	22	10	US-09-802-359-4	Sequence 4, Appl	209	18.8	85.5	22	9	US-09-802-376-10	Sequence 10, Appl
137	20.4	92.7	22	10	US-09-848-986-10	Sequence 10, Appl	210	18.8	85.5	22	9	US-09-774-403A-3	Sequence 3, Appl
138	20.4	92.7	22	10	US-09-848-986-11	Sequence 11, Appl	211	18.8	85.5	22	9	US-09-770-943-1	Sequence 1, Appl
139	20.4	92.7	22	14	US-10-099-512-2	Sequence 2, Appl	212	18.8	85.5	22	9	US-09-770-943-3	Sequence 3, Appl
140	20.4	92.7	22	15	US-10-233-121A-10	Sequence 10, Appl	213	18.8	85.5	22	9	US-09-770-943-10	Sequence 10, Appl
141	20.4	92.7	22	15	US-10-219-143-4	Sequence 4, Appl	214	18.8	85.5	22	9	US-09-820-484-7	Sequence 7, Appl
142	20.4	92.7	22	15	US-10-219-143-5	Sequence 5, Appl	215	18.8	85.5	22	9	US-09-828-505-4	Sequence 4, Appl
143	20.4	92.7	22	15	US-10-219-143-6	Sequence 6, Appl	216	18.8	85.5	22	9	US-09-967-881-1	Sequence 1, Appl
144	20.4	92.7	22	15	US-10-340-275-2	Sequence 2, Appl	217	18.8	85.5	22	9	US-09-967-881-9	Sequence 9, Appl
145	20.4	92.7	22	15	US-10-340-275-6	Sequence 6, Appl	218	18.8	85.5	22	10	US-09-927-422A-9	Sequence 9, Appl
146	20.4	92.7	22	15	US-10-339-885-2	Sequence 2, Appl	219	18.8	85.5	22	10	US-09-927-422A-10	Sequence 10, Appl
147	20.4	92.7	22	15	US-10-339-885-6	Sequence 6, Appl	220	18.8	85.5	22	10	US-09-927-884-9	Sequence 9, Appl
148	20.4	92.7	22	15	US-10-412-151-4	Sequence 4, Appl	221	18.8	85.5	22	10	US-09-927-884-10	Sequence 10, Appl
152	20.4	92.7	22	15	US-10-357-760-4	Sequence 4, Appl	225	18.8	85.5	22	10	US-09-848-986-9	Sequence 9, Appl
153	20.4	92.7	22	15	US-10-357-760-4	Sequence 4, Appl	226	18.8	85.5	22	10	US-09-848-986-12	Sequence 12, Appl
154	20.4	92.7	22	16	US-10-413-504-1	Sequence 1, Appl	227	18.8	85.5	22	14	US-10-033-243-8	Sequence 8, Appl
155	20.4	92.7	22	16	US-10-413-504-5	Sequence 5, Appl	228	18.8	85.5	22	14	US-10-033-243-9	Sequence 9, Appl
156	20.4	92.7	22	16	US-10-413-504-6	Sequence 6, Appl	229	18.8	85.5	22	14	US-10-033-243-50	Sequence 50, Appl
157	20.4	92.7	22	16	US-10-413-504-16	Sequence 16, Appl	230	18.8	85.5	22	14	US-10-033-243-60	Sequence 60, Appl
158	20.4	92.7	22	16	US-10-426-237-2	Sequence 2, Appl	231	18.8	85.5	22	14	US-10-033-243-61	Sequence 61, Appl

232	18.8	85.5	22	14	US-10-099-512-3	Sequence 3, Appli	305	17.8	80.9	22	15	US-10-328-578-71	Sequence 71, Appli
233	18.8	85.5	22	14	US-10-099-512-4	Sequence 4, Appli	306	17.8	80.9	22	15	US-10-328-578-81	Sequence 72, Appli
234	18.8	85.5	22	14	US-10-229-208-20	Sequence 20, Appli	307	17.8	80.9	22	15	US-10-328-578-82	Sequence 73, Appli
235	18.8	85.5	22	15	US-10-253-117-33	Sequence 33, Appli	308	17.8	80.9	22	15	US-10-328-578-82	Sequence 82, Appli
236	18.8	85.5	22	15	US-10-233-121A-9	Sequence 9, Appli	309	17.8	80.9	22	15	US-10-328-578-137	Sequence 137, App
237	18.8	85.5	22	15	US-10-233-121A-12	Sequence 12, Appli	310	17.8	80.9	22	15	US-10-328-578-138	Sequence 138, App
238	18.8	85.5	22	15	US-10-219-143-3	Sequence 3, Appli	311	17.8	80.9	22	17	US-10-623-371-71	Sequence 71, Appli
239	18.8	85.5	22	15	US-10-219-143-8	Sequence 8, Appli	312	17.8	80.9	22	17	US-10-623-371-72	Sequence 72, Appli
240	18.8	85.5	22	15	US-10-214-799-1	Sequence 1, Appli	313	17.8	80.9	22	17	US-10-623-371-81	Sequence 81, Appli
241	18.8	85.5	22	15	US-10-340-275-7	Sequence 7, Appli	314	17.8	80.9	22	17	US-10-623-371-82	Sequence 82, Appli
242	18.8	85.5	22	15	US-10-339-885-7	Sequence 7, Appli	315	17.8	80.9	22	17	US-10-623-371-137	Sequence 137, App
243	18.8	85.5	22	15	US-10-176-883-135	Sequence 3, Appli	316	17.8	80.9	22	17	US-10-623-371-138	Sequence 138, App
244	18.8	85.5	22	15	US-10-176-883-30	Sequence 30, Appli	317	17.2	78.2	22	9	US-09-791-500-9	Sequence 9, Appli
245	18.8	85.5	22	15	US-10-176-883-88	Sequence 88, Appli	318	17.2	78.2	22	9	US-09-770-943-4	Sequence 4, Appli
246	18.8	85.5	22	15	US-10-176-883-89	Sequence 89, Appli	319	17.2	78.2	22	10	US-09-967-844-21	Sequence 21, Appli
247	18.8	85.5	22	15	US-10-177-826-30	Sequence 30, Appli	320	17.2	78.2	22	10	US-09-848-986-14	Sequence 14, Appli
248	18.8	85.5	22	15	US-10-176-883-136	Sequence 136, App	321	17.2	78.2	22	14	US-10-033-243-9	Sequence 9, Appli
249	18.8	85.5	22	15	US-10-412-151-3	Sequence 3, Appli	322	17.2	78.2	22	14	US-10-033-243-16	Sequence 16, Appli
250	18.8	85.5	22	15	US-10-412-151-8	Sequence 8, Appli	323	17.2	78.2	22	14	US-10-033-243-21	Sequence 21, Appli
251	18.8	85.5	22	15	US-10-177-826-3	Sequence 3, Appli	324	17.2	78.2	22	14	US-10-233-121A-14	Sequence 14, Appli
252	18.8	85.5	22	15	US-10-177-826-30	Sequence 30, Appli	325	17.2	78.2	22	15	US-10-219-143-9	Sequence 9, Appli
253	18.8	85.5	22	15	US-10-177-826-88	Sequence 88, Appli	326	17.2	78.2	22	15	US-10-176-883-31	Sequence 31, Appli
254	18.8	85.5	22	15	US-10-177-826-89	Sequence 89, Appli	327	17.2	78.2	22	15	US-10-176-883-38	Sequence 38, Appli
255	18.8	85.5	22	15	US-10-177-826-135	Sequence 135, App	328	17.2	78.2	22	15	US-10-176-883-43	Sequence 43, Appli
256	18.8	85.5	22	15	US-10-177-826-136	Sequence 136, App	329	17.2	78.2	22	15	US-10-412-151-9	Sequence 9, Appli
257	18.8	85.5	22	15	US-10-353-917-3	Sequence 3, Appli	330	17.2	78.2	22	15	US-10-177-826-38	Sequence 38, Appli
258	18.8	85.5	22	15	US-10-328-578-3	Sequence 3, Appli	331	17.2	78.2	22	15	US-10-177-826-38	Sequence 38, Appli
259	18.8	85.5	22	15	US-10-328-578-30	Sequence 30, Appli	332	17.2	78.2	22	15	US-10-177-826-43	Sequence 43, Appli
260	18.8	85.5	22	15	US-10-328-578-88	Sequence 88, Appli	333	17.2	78.2	22	15	US-10-328-578-81	Sequence 31, Appli
261	18.8	85.5	22	15	US-10-328-578-89	Sequence 89, Appli	334	17.2	78.2	22	15	US-10-328-578-38	Sequence 38, Appli
262	18.8	85.5	22	15	US-10-328-578-116	Sequence 116, App	335	17.2	78.2	22	15	US-10-328-578-43	Sequence 43, Appli
263	18.8	85.5	22	15	US-10-394-092-2	Sequence 2, Appli	336	17.2	78.2	22	16	US-10-413-504-9	Sequence 9, Appli
264	18.8	85.5	22	16	US-10-394-387-2	Sequence 2, Appli	337	17.2	78.2	22	16	US-10-413-504-13	Sequence 13, Appli
265	18.8	85.5	22	16	US-10-413-504-3	Sequence 3, Appli	338	17.2	78.2	22	16	US-10-365-678-3	Sequence 3, Appli
266	18.8	85.5	22	16	US-10-413-504-8	Sequence 8, Appli	339	17.2	78.2	22	17	US-10-623-371-31	Sequence 31, Appli
267	18.8	85.5	22	16	US-10-426-237-9	Sequence 9, Appli	340	17.2	78.2	22	17	US-10-623-371-38	Sequence 38, Appli
268	18.8	85.5	22	17	US-10-623-371-3	Sequence 3, Appli	341	17.2	78.2	22	17	US-10-623-371-61	Sequence 61, Appli
269	18.8	85.5	22	17	US-10-623-371-30	Sequence 30, Appli	342	17.2	78.2	22	17	US-10-739-518-31	Sequence 31, Appli
270	18.8	85.5	22	17	US-10-623-371-88	Sequence 88, Appli	343	17.2	78.2	22	17	US-10-739-518-38	Sequence 38, Appli
271	18.8	85.5	22	17	US-10-623-371-89	Sequence 89, Appli	344	17.2	78.2	22	17	US-10-739-518-43	Sequence 43, Appli
272	18.8	85.5	22	17	US-10-623-371-136	Sequence 136, App	345	17.2	78.2	22	17	US-10-739-518-84	Sequence 84, Appli
273	18.8	85.5	22	17	US-10-739-518-3	Sequence 3, Appli	346	17.2	78.2	22	17	US-10-739-518-85	Sequence 85, Appli
274	18.8	85.5	22	17	US-10-739-518-30	Sequence 30, Appli	347	17	77.3	22	14	US-10-033-243-12	Sequence 12, Appli
275	18.8	85.5	22	17	US-10-739-518-88	Sequence 88, Appli	348	17	77.3	22	14	US-10-033-243-15	Sequence 15, Appli
276	18.8	85.5	22	17	US-10-739-518-89	Sequence 89, Appli	349	17	77.3	22	14	US-10-033-243-46	Sequence 46, Appli
277	18.8	85.5	22	17	US-10-739-518-142	Sequence 142, App	350	17	77.3	22	15	US-10-176-883-34	Sequence 34, Appli
278	18.8	85.5	22	17	US-10-739-518-144	Sequence 144, App	351	17	77.3	22	15	US-10-176-883-84	Sequence 84, Appli
279	18	81.8	18	14	US-10-033-243-44	Sequence 44, Appli	352	17	77.3	22	15	US-10-176-883-85	Sequence 85, Appli
280	18	81.8	18	15	US-10-176-883-83	Sequence 83, Appli	353	17	77.3	22	15	US-10-177-826-34	Sequence 34, Appli
281	18	81.8	18	15	US-10-177-826-83	Sequence 83, Appli	354	17	77.3	22	15	US-10-177-826-84	Sequence 84, Appli
282	18	81.8	18	15	US-10-328-578-83	Sequence 83, Appli	355	17	77.3	22	15	US-10-177-826-85	Sequence 85, Appli
283	18	81.8	18	17	US-10-623-371-83	Sequence 83, Appli	356	17	77.3	22	15	US-10-328-578-84	Sequence 34, Appli
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285	18	81.8	22	17	US-10-739-518-71	Sequence 71, Appli	358	17	77.3	22	15	US-10-328-578-85	Sequence 85, Appli
286	18	81.8	22	17	US-10-739-518-72	Sequence 72, Appli	359	17	77.3	22	17	US-10-623-371-34	Sequence 34, Appli
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288	18	81.8	22	17	US-10-739-518-82	Sequence 82, Appli	361	17	77.3	22	17	US-10-623-371-85	Sequence 85, Appli
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290	17.8	80.9	22	14	US-10-033-243-34	Sequence 34, Appli	363	16.4	74.5	18	14	US-10-033-243-15	Sequence 15, Appli
291	17.8	80.9	22	14	US-10-033-243-42	Sequence 42, Appli	364	16.4	74.5	18	14	US-10-033-243-37	Sequence 37, Appli
292	17.8	80.9	22	14	US-10-033-243-43	Sequence 43, Appli	365	16.4	74.5	18	15	US-10-176-883-37	Sequence 37, Appli
293	17.8	80.9	22	15	US-10-176-883-71	Sequence 71, Appli	366	16.4	74.5	18	15	US-10-176-883-82	Sequence 82, Appli
294	17.8	80.9	22	15	US-10-176-883-72	Sequence 72, Appli	367	16.4	74.5	18	15	US-10-177-826-37	Sequence 37, Appli
295	17.8	80.9	22	15	US-10-176-883-81	Sequence 81, Appli	368	16.4	74.5	18	15	US-10-177-826-92	Sequence 92, Appli
296	17.8	80.9	22	15	US-10-176-883-82	Sequence 82, Appli	369	16.4	74.5	18	15	US-10-328-578-37	Sequence 37, Appli
297	17.8	80.9	22	15	US-10-176-883-137	Sequence 137, App	370	16.4	74.5	18	15	US-10-328-578-92	Sequence 92, Appli
298	17.8	80.9	22	15	US-10-176-883-138	Sequence 138, App	371	16.4	74.5	18	17	US-10-623-371-37	Sequence 37, Appli
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303	17.8	80.9	22	15	US-10-177-826-137	Sequence 137, App	376	16	72.7	20	15	US-10-233-121A-21	Sequence 21, Appli
304	17.8	80.9	22	15	US-10-177-826-138	Sequence 138, App	377	15.8	71.8	20	10	US-09-848-986-2	Sequence 2, Appli

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393	15.6	70.9	22	17	US-10-739-518-32	Sequence 32, Appli	466	13.6	61.8	41	16	US-10-035-833A-1374	Sequence 1374, Ap
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417	14.8	67.3	18	17	US-10-623-371-36	Sequence 36, Appli	491	13	59.1	20	15	US-10-177-826-42	Sequence 42, Appli
418	14.8	67.3	18	17	US-10-739-518-36	Sequence 36, Appli	492	13	59.1	20	15	US-10-328-578-42	Sequence 42, Appli
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447	14	63.6	20	17	US-10-739-518-93	Sequence 93, Appli	c 521	12.6	57.3	20	10	US-09-995-793A-60	Sequence 60, Appli
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C 530	12.6	57.3	26	10	US-09-997-559-35	Sequence 35, App1	C 603	12.4	56.4	65	10	US-09-908-975-29739	Sequence 29739, A
C 531	12.6	57.3	26	16	US-10-287-971-372	Sequence 372, App	C 604	12.4	56.4	73	14	US-10-077-319-33	Sequence 33, App1
C 532	12.6	57.3	27	10	US-09-902-214-60	Sequence 60, App1	C 605	12.4	56.4	80	16	US-10-384-245-13	Sequence 43, App1
C 533	12.6	57.3	30	15	US-10-340-860A-12	Sequence 12, App1	C 606	12.4	56.4	90	15	US-10-029-386-17261	Sequence 17261, A
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C 536	12.6	57.3	42	15	US-10-340-414-88	Sequence 88, App1	C 609	12.2	55.5	17	15	US-10-675-685-93	Sequence 93, App1
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C 539	12.6	57.3	42	15	US-10-340-414-93	Sequence 93, App1	C 612	12.2	55.5	20	10	US-09-995-793A-56	Sequence 56, App1
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C 541	12.6	57.3	60	10	US-09-908-975-9920	Sequence 9920, App	C 614	12.2	55.5	21	18	US-10-786-720-11120	Sequence 11120, A
C 542	12.6	57.3	60	10	US-09-908-975-10648	Sequence 10648, A	C 615	12.2	55.5	21	18	US-10-786-720-11121	Sequence 11121, A
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C 544	12.6	57.3	61	9	US-09-795-668-1340	Sequence 1340, App	C 617	12.2	55.5	25	9	US-09-827-998-909	Sequence 909, App
C 545	12.6	57.3	61	9	US-09-795-686-1340	Sequence 1340, App	C 618	12.2	55.5	25	9	US-09-827-998-910	Sequence 910, App
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C 547	12.6	57.3	65	10	US-09-908-975-4458	Sequence 4458, App	C 620	12.2	55.5	25	9	US-09-827-998-912	Sequence 912, App
C 548	12.6	57.3	65	10	US-09-908-975-24946	Sequence 24946, A	C 621	12.2	55.5	25	9	US-09-827-998-913	Sequence 913, App
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C 550	12.6	57.3	77	10	US-09-860-474-21	Sequence 21, App1	C 623	12.2	55.5	25	9	US-09-827-998-915	Sequence 915, App
C 551	12.6	57.3	77	15	US-10-409-545-21	Sequence 21, App1	C 624	12.2	55.5	25	9	US-09-827-998-916	Sequence 916, App
C 552	12.6	57.3	80	16	US-10-384-245-650	Sequence 131, App	C 625	12.2	55.5	25	14	US-10-215-11735	Sequence 11735, A
C 553	12.6	57.3	80	16	US-10-384-245-650	Sequence 650, App	C 626	12.2	55.5	25	15	US-10-098-263B-12018	Sequence 12018, A
C 554	12.4	56.4	19	14	US-10-033-243-56	Sequence 56, App1	C 627	12.2	55.5	25	15	US-10-098-263B-125467	Sequence 125467, A
C 555	12.4	56.4	19	14	US-10-033-243-57	Sequence 57, App1	C 628	12.2	55.5	25	15	US-10-098-263B-40489	Sequence 40489, A
C 556	12.4	56.4	19	15	US-10-176-883-94	Sequence 94, App1	C 629	12.2	55.5	25	15	US-10-098-263B-47062	Sequence 47062, A
C 557	12.4	56.4	19	15	US-10-176-883-95	Sequence 95, App1	C 630	12.2	55.5	25	15	US-10-098-263B-60148	Sequence 60148, A
C 558	12.4	56.4	19	15	US-10-177-828-94	Sequence 94, App1	C 631	12.2	55.5	25	15	US-10-098-263B-92503	Sequence 92503, A
C 559	12.4	56.4	19	15	US-10-177-828-95	Sequence 95, App1	C 632	12.2	55.5	25	15	US-10-098-263B-103541	Sequence 103541, A
C 560	12.4	56.4	19	15	US-10-328-578-94	Sequence 94, App1	C 633	12.2	55.5	25	15	US-10-098-263B-116340	Sequence 116340, A
C 561	12.4	56.4	19	15	US-10-328-578-95	Sequence 95, App1	C 634	12.2	55.5	25	15	US-10-098-263B-120848	Sequence 120848, A
C 562	12.4	56.4	19	17	US-10-623-371-94	Sequence 94, App1	C 635	12.2	55.5	25	15	US-10-060-998-2742	Sequence 2742, App
C 563	12.4	56.4	19	17	US-10-623-371-95	Sequence 95, App1	C 636	12.2	55.5	25	15	US-10-060-998-2743	Sequence 2743, App
C 564	12.4	56.4	19	17	US-10-739-518-94	Sequence 94, App1	C 637	12.2	55.5	25	15	US-10-060-998-2744	Sequence 2744, App
C 565	12.4	56.4	19	17	US-10-739-518-95	Sequence 95, App1	C 638	12.2	55.5	25	15	US-10-060-998-2745	Sequence 2745, App
C 566	12.4	56.4	20	9	US-09-824-468-11	Sequence 11, App1	C 639	12.2	55.5	25	15	US-10-060-998-2746	Sequence 2746, App
C 567	12.4	56.4	20	9	US-09-800-266A-91	Sequence 91, App1	C 640	12.2	55.5	25	15	US-10-060-998-2747	Sequence 2747, App
C 568	12.4	56.4	20	9	US-09-895-007A-91	Sequence 91, App1	C 641	12.2	55.5	25	15	US-10-060-998-2748	Sequence 2748, App
C 569	12.4	56.4	20	9	US-09-920-313-91	Sequence 91, App1	C 642	12.2	55.5	25	15	US-10-060-998-2749	Sequence 2749, App
C 570	12.4	56.4	20	13	US-10-023-909A-91	Sequence 91, App1	C 643	12.2	55.5	25	15	US-10-060-998-2750	Sequence 2750, App
C 571	12.4	56.4	20	14	US-10-300-247-91	Sequence 91, App1	C 644	12.2	55.5	25	16	US-10-675-685-908	Sequence 908, App
C 572	12.4	56.4	20	15	US-10-434-696-91	Sequence 91, App1	C 645	12.2	55.5	25	16	US-10-675-685-909	Sequence 909, App
C 573	12.4	56.4	20	17	US-10-666-733-91	Sequence 91, App1	C 646	12.2	55.5	25	16	US-10-675-685-910	Sequence 910, App
C 574	12.4	56.4	23	9	US-09-813-781-87	Sequence 87, App1	C 647	12.2	55.5	25	16	US-10-675-685-911	Sequence 911, App
C 575	12.4	56.4	25	14	US-10-215-112-7961	Sequence 7961, App	C 648	12.2	55.5	25	16	US-10-675-685-912	Sequence 912, App
C 576	12.4	56.4	25	14	US-10-215-112-8087	Sequence 8087, App	C 649	12.2	55.5	25	16	US-10-675-685-913	Sequence 913, App
C 577	12.4	56.4	25	15	US-10-098-263B-783	Sequence 283, App	C 650	12.2	55.5	25	16	US-10-675-685-914	Sequence 914, App
C 578	12.4	56.4	25	15	US-10-098-263B-42657	Sequence 42657, A	C 651	12.2	55.5	25	16	US-10-675-685-915	Sequence 915, App
C 579	12.4	56.4	25	15	US-10-098-263B-59876	Sequence 59876, A	C 652	12.2	55.5	25	16	US-10-675-685-916	Sequence 916, App
C 580	12.4	56.4	26	9	US-09-347-064-19	Sequence 19, App1	C 653	12.2	55.5	25	17	US-10-629-913-96	Sequence 96, App1
C 581	12.4	56.4	32	15	US-10-027-736A-59	Sequence 59, App1	C 654	12.2	55.5	29	9	US-09-879-919-9	Sequence 10, App1
C 582	12.4	56.4	34	9	US-09-870-756-23	Sequence 23, App1	C 655	12.2	55.5	29	13	US-10-082-260-10	Sequence 10, App1
C 583	12.4	56.4	34	9	US-09-874-585B-23	Sequence 23, App1	C 656	12.2	55.5	29	15	US-10-268-951-10	Sequence 10, App1
C 584	12.4	56.4	42	16	US-10-035-833A-2255	Sequence 2255, App	C 657	12.2	55.5	47	15	US-10-170-097-721	Sequence 721, App1
C 585	12.4	56.4	47	13	US-10-027-633-176332	Sequence 176332, App	C 658	12.2	55.5	47	15	US-10-170-097-721	Sequence 948, App
C 586	12.4	56.4	47	15	US-10-027-633-176332	Sequence 176332, App	C 659	12.2	55.5	53	8	US-08-911-824-99	Sequence 98, App1
C 587	12.4	56.4	50	16	US-10-131-827-2871	Sequence 2871, App	C 660	12.2	55.5	60	8	US-08-911-824-98	Sequence 98, App1
C 588	12.4	56.4	50	16	US-10-131-827-4553	Sequence 4553, App	C 661	12.2	55.5	60	10	US-09-908-975-11778	Sequence 11778, A
C 589	12.4	56.4	50	16	US-10-131-827-6548	Sequence 6548, App	C 662	12.2	55.5	60	10	US-09-908-975-13912	Sequence 13912, A
C 590	12.4	56.4	50	16	US-10-131-827-6938	Sequence 6938, App	C 663	12.2	55.5	60	10	US-09-908-975-17779	Sequence 17779, A
C 591	12.4	56.4	60	10	US-09-908-975-8877	Sequence 8877, App	C 664	12.2	55.5	60	10	US-09-908-975-18093	Sequence 18093, A
C 592	12.4	56.4	60	10	US-09-908-975-10390	Sequence 10390, A	C 665	12.2	55.5	60	17	US-09-908-975-18638	Sequence 18638, A
C 593	12.4	56.4	60	10	US-09-908-975-13018	Sequence 13018, A	C 666	12.2	55.5	60	17	US-10-655-179-116	Sequence 116, App
C 594	12.4	56.4	60	10	US-09-908-975-15366	Sequence 15366, A	C 667	12.2	55.5	65	10	US-09-908-975-3403	Sequence 3403, App
C 595	12.4	56.4	60	10	US-09-908-975-17831	Sequence 17831, A	C 668	12.2	55.5	65	10	US-09-908-975-3541	Sequence 3541, App
C 596	12.4	56.4	60	10	US-09-908-975-22681	Sequence 22681, A	C 669	12.2	55.5	65	10	US-09-908-975-30011	Sequence 30011, A

C 670	12.2	55.5	65	10	US-09-908-975-30420	Sequence 30420, A	743	12	54.5	96	16	US-10-282-122A-16698	Sequence 16698, A
C 671	12.2	55.5	65	10	US-09-908-975-30839	Sequence 30839, A	C 744	11.8	53.6	20	14	US-10-068-160-88	Sequence 88, Appl
C 672	12.2	55.5	75	18	US-10-729-581-65	Sequence 65, Appl	C 745	11.8	53.6	21	11	US-09-874-991C-311	Sequence 311, Appl
C 673	12.2	55.5	75	18	US-10-729-581-235	Sequence 235, Appl	C 746	11.8	53.6	21	15	US-10-325-881-28	Sequence 28, Appl
C 674	12.2	55.5	79	15	US-10-406-903-90	Sequence 90, Appl	C 747	11.8	53.6	22	11	US-09-874-991C-330	Sequence 330, Appl
C 675	12.2	55.5	87	9	US-09-938-700-17	Sequence 17, Appl	C 748	11.8	53.6	24	11	US-09-874-991C-583	Sequence 583, Appl
C 676	12.2	55.5	87	15	US-10-029-386-21596	Sequence 21596, A	C 749	11.8	53.6	25	9	US-09-893-238-29	Sequence 29, Appl
C 677	12	54.5	20	14	US-10-144-577-32	Sequence 32, Appl	C 750	11.8	53.6	25	14	US-10-215-112-6568	Sequence 6568, Ap
C 678	12	54.5	20	17	US-10-304-098-33	Sequence 33, Appl	C 751	11.8	53.6	25	15	US-10-098-263B-10837	Sequence 3877, Ap
C 679	12	54.5	21	9	US-09-995-225-66	Sequence 66, Appl	C 752	11.8	53.6	25	15	US-10-098-263B-20188	Sequence 10837, A
C 680	12	54.5	21	10	US-09-995-225-66	Sequence 66, Appl	C 753	11.8	53.6	25	15	US-10-098-263B-33911	Sequence 33911, A
C 681	12	54.5	21	17	US-10-702-486-117	Sequence 117, Appl	C 754	11.8	53.6	25	15	US-10-098-263B-55877	Sequence 55877, A
C 682	12	54.5	24	10	US-09-940-185-970	Sequence 970, Appl	C 755	11.8	53.6	25	15	US-10-098-263B-56697	Sequence 56697, A
C 683	12	54.5	25	15	US-10-098-263B-12199	Sequence 12199, A	C 756	11.8	53.6	25	15	US-10-098-263B-56698	Sequence 56698, A
C 684	12	54.5	25	15	US-10-098-263B-24029	Sequence 24029, A	C 757	11.8	53.6	25	15	US-10-098-263B-56698	Sequence 56698, A
C 685	12	54.5	25	15	US-10-098-263B-11339	Sequence 41399, A	C 758	11.8	53.6	25	15	US-10-098-263B-63756	Sequence 63756, A
C 686	12	54.5	25	15	US-10-098-263B-42037	Sequence 42027, A	C 759	11.8	53.6	25	15	US-10-098-263B-68254	Sequence 68254, A
C 687	12	54.5	25	15	US-10-098-263B-43627	Sequence 43627, A	C 760	11.8	53.6	25	15	US-10-098-263B-70179	Sequence 70179, A
C 688	12	54.5	25	15	US-10-098-263B-43628	Sequence 43628, A	C 761	11.8	53.6	25	15	US-10-098-263B-70805	Sequence 70805, A
C 689	12	54.5	25	15	US-10-098-263B-55877	Sequence 55877, A	C 762	11.8	53.6	25	15	US-10-098-263B-70806	Sequence 70806, A
C 690	12	54.5	25	15	US-10-098-263B-56070	Sequence 56070, A	C 763	11.8	53.6	25	15	US-10-098-263B-72308	Sequence 72308, A
C 691	12	54.5	25	15	US-10-098-263B-64618	Sequence 64618, A	C 764	11.8	53.6	25	15	US-10-098-263B-97442	Sequence 97442, A
C 692	12	54.5	25	15	US-10-098-263B-75295	Sequence 75295, A	C 765	11.8	53.6	25	15	US-10-098-263B-103836	Sequence 103836, A
C 693	12	54.5	25	15	US-10-098-263B-77302	Sequence 77302, A	C 766	11.8	53.6	25	15	US-10-098-263B-120956	Sequence 120956, A
C 694	12	54.5	25	15	US-10-098-263B-80967	Sequence 80967, A	C 767	11.8	53.6	25	15	US-10-098-263B-120956	Sequence 120956, A
C 695	12	54.5	25	15	US-10-098-263B-106850	Sequence 106850, A	C 768	11.8	53.6	26	11	US-09-874-991C-14	Sequence 14, Appl
C 696	12	54.5	25	15	US-10-098-263B-108768	Sequence 108768, A	C 769	11.8	53.6	27	9	US-09-836-071C-20	Sequence 20, Appl
C 697	12	54.5	25	15	US-10-098-263B-130232	Sequence 130232, A	C 770	11.8	53.6	27	10	US-09-996-008B-24	Sequence 24, Appl
C 698	12	54.5	25	17	US-10-775-169-1630	Sequence 1630, Ap	C 771	11.8	53.6	27	10	US-09-996-008B-25	Sequence 25, Appl
C 699	12	54.5	31	9	US-09-801-274-393	Sequence 393, Appl	C 772	11.8	53.6	28	11	US-09-874-991C-56	Sequence 56, Appl
C 700	12	54.5	31	17	US-10-163-863A-20	Sequence 20, Appl	C 773	11.8	53.6	32	9	US-09-837-644-4	Sequence 4, Appl1
C 701	12	54.5	32	10	US-09-932-419-6	Sequence 6, Appl1	C 774	11.8	53.6	32	14	US-10-027-760-4	Sequence 4, Appl1
C 702	12	54.5	32	16	US-10-612-779-103	Sequence 103, Appl	C 775	11.8	53.6	38	17	US-10-712-672-3686	Sequence 3686, Ap
C 703	12	54.5	34	15	US-10-125-994A-69	Sequence 69, Appl	C 776	11.8	53.6	40	11	US-09-874-991C-445	Sequence 445, Appl
C 704	12	54.5	42	16	US-10-035-833A-3661	Sequence 3661, Appl	C 777	11.8	53.6	40	11	US-09-874-991C-580	Sequence 580, Appl
C 705	12	54.5	43	13	US-10-027-632-177600	Sequence 177600, A	C 778	11.8	53.6	41	16	US-10-035-833A-3028	Sequence 3028, Appl
C 706	12	54.5	43	15	US-10-027-632-177600	Sequence 177600, A	C 779	11.8	53.6	41	16	US-10-035-833A-4925	Sequence 4925, Ap
C 707	12	54.5	45	15	US-10-156-995-224	Sequence 224, Appl	C 780	11.8	53.6	47	9	US-09-837-644-3	Sequence 3, Appl1
C 708	12	54.5	50	16	US-10-131-827-4069	Sequence 4069, Appl	C 781	11.8	53.6	47	14	US-10-027-760-3	Sequence 3, Appl1
C 709	12	54.5	53	9	US-09-746-359A-31	Sequence 31, Appl	C 782	11.8	53.6	60	10	US-09-908-975-1217	Sequence 9217, Ap
C 710	12	54.5	53	9	US-09-951-268-16	Sequence 16, Appl	C 783	11.8	53.6	60	10	US-09-908-975-16317	Sequence 16317, A
C 711	12	54.5	53	16	US-10-424-658-31	Sequence 31, Appl	C 784	11.8	53.6	65	10	US-09-908-975-24446	Sequence 24446, A
C 712	12	54.5	58	15	US-10-095-373A-27	Sequence 27, Appl	C 785	11.8	53.6	65	10	US-09-908-975-24446	Sequence 24446, A
C 713	12	54.5	58	15	US-10-095-373A-28	Sequence 28, Appl	C 786	11.8	53.6	69	9	US-09-908-975-27504	Sequence 27504, A
C 714	12	54.5	60	10	US-09-908-975-5554	Sequence 5554, Ap	C 787	11.8	53.6	69	14	US-10-027-760-9	Sequence 9, Appl1
C 715	12	54.5	60	10	US-09-908-975-8196	Sequence 8196, Appl	C 788	11.8	53.6	77	10	US-10-409-565-36	Sequence 36, Appl
C 716	12	54.5	60	10	US-09-908-975-15268	Sequence 15268, A	C 789	11.8	53.6	77	15	US-10-409-565-36	Sequence 36, Appl
C 717	12	54.5	60	10	US-09-908-975-1182	Sequence 1182, A	C 790	11.6	52.7	21	10	US-10-098-263B-69967	Sequence 69967, A
C 718	12	54.5	60	10	US-09-908-975-18082	Sequence 18082, A	C 791	11.6	52.7	21	16	US-10-349-143-6091	Sequence 6091, Ap
C 719	12	54.5	60	10	US-09-908-975-19556	Sequence 19556, A	C 792	11.6	52.7	21	18	US-10-786-720-13183	Sequence 13183, A
C 720	12	54.5	60	10	US-09-908-975-31454	Sequence 31454, A	C 793	11.6	52.7	25	15	US-10-098-263B-5622	Sequence 5622, Ap
C 721	12	54.5	60	15	US-10-095-373A-33	Sequence 33, Appl	C 794	11.6	52.7	25	15	US-10-098-263B-11288	Sequence 11288, A
C 722	12	54.5	60	15	US-10-095-373A-35	Sequence 35, Appl	C 795	11.6	52.7	25	15	US-10-098-263B-26761	Sequence 26761, A
C 723	12	54.5	60	15	US-10-095-373A-36	Sequence 36, Appl	C 796	11.6	52.7	25	15	US-10-098-263B-30247	Sequence 30247, A
C 724	12	54.5	60	17	US-10-655-579-143	Sequence 143, Appl	C 797	11.6	52.7	25	15	US-10-098-263B-84793	Sequence 84793, A
C 725	12	54.5	60	17	US-10-664-610-64	Sequence 64, Appl	C 798	11.6	52.7	25	15	US-10-098-263B-84793	Sequence 84793, A
C 726	12	54.5	60	17	US-10-664-610-65	Sequence 65, Appl	C 799	11.6	52.7	25	15	US-10-098-263B-98059	Sequence 98059, A
C 727	12	54.5	60	17	US-10-664-610-66	Sequence 66, Appl	C 800	11.6	52.7	25	15	US-10-098-263B-98059	Sequence 98059, A
C 728	12	54.5	60	17	US-10-664-610-67	Sequence 67, Appl	C 801	11.6	52.7	25	15	US-10-098-263B-77064	Sequence 77064, A
C 729	12	54.5	64	15	US-10-095-373A-76	Sequence 76, Appl	C 802	11.6	52.7	25	15	US-10-098-263B-82754	Sequence 82754, A
C 730	12	54.5	65	10	US-09-908-975-2100	Sequence 2100, Ap	C 803	11.6	52.7	25	15	US-10-098-263B-84793	Sequence 84793, A
C 731	12	54.5	65	10	US-09-908-975-23918	Sequence 23918, A	C 804	11.6	52.7	25	15	US-10-098-263B-98059	Sequence 98059, A
C 732	12	54.5	65	10	US-09-908-975-24082	Sequence 24082, A	C 805	11.6	52.7	25	15	US-10-098-263B-98059	Sequence 98059, A
C 733	12	54.5	65	15	US-10-032-585-249	Sequence 249, Appl	C 806	11.6	52.7	25	15	US-10-098-263B-98059	Sequence 98059, A
C 734	12	54.5	65	15	US-10-032-585-3107	Sequence 3107, Appl	C 807	11.6	52.7	25	15	US-10-098-263B-104578	Sequence 104578, A
C 735	12	54.5	66	15	US-10-071-179-8	Sequence 8, Appl1	C 808	11.6	52.7	25	15	US-10-098-263B-114578	Sequence 114578, A
C 736	12	54.5	66	15	US-10-126-704-8	Sequence 8, Appl1	C 809	11.6	52.7	25	15	US-10-098-263B-115020	Sequence 115020, A
C 737	12	54.5	73	14	US-10-077-319-27	Sequence 27, Appl	C 810	11.6	52.7	25	15	US-10-098-263B-115872	Sequence 115872, A
C 738	12	54.5	74	14	US-10-077-319-26	Sequence 26, Appl	C 811	11.6	52.7	29	15	US-10-336-658-315	Sequence 315, Appl
C 739	12	54.5	80	16	US-10-384-245-1076	Sequence 1076, Ap	C 812	11.6	52.7	31	10	US-09-848-754A-7495	Sequence 7495, Appl
C 740	12	54.5	86	9	US-09-864-761-22486	Sequence 22486, A	C 813	11.6	52.7	31	10	US-09-780-164-2083	Sequence 2083, Ap
C 741	12	54.5	90	15	US-10-151-166-5	Sequence 5, Appl1	C 814	11.6	52.7	32	15	US-10-227-039-44	Sequence 44, Appl
C 742	12	54.5	95	9	US-09-294-093B-1973	Sequence 1973, Ap	C 815	11.6	52.7	32	18	US-10-784-880-363	Sequence 263, Appl

C 816	11.6	52.7	34	9	US-09-738-599-12	Sequence 12, Appl	C 889	11.4	51.8	25	15	US-10-098-263B-95392	Sequence 95392, A
817	11.6	52.7	40	16	US-10-035-833A-2256	Sequence 2256, Ap	C 890	11.4	51.8	25	15	US-10-098-263B-100031	Sequence 100031, A
C 818	11.6	52.7	45	9	US-09-918-063-84	Sequence 84, Appl	C 891	11.4	51.8	25	15	US-10-098-263B-100032	Sequence 100032, A
C 819	11.6	52.7	50	16	US-10-131-827-2146	Sequence 2146, Ap	C 892	11.4	51.8	25	15	US-10-098-263B-125298	Sequence 125298, A
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ALIGNMENTS

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; Patent No. US20010046967A1
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; APPLICANT: Dynavax Technologies Corporation
; APPLICANT: Van Nest, Gary
; TITLE OF INVENTION: METHODS OF PREVENTING AND TREATING
; TITLE OF INVENTION: RESPIRATORY VIRAL INFECTION USING IMMUNOMODULATORY
; FILE REFERENCE: 377882000900
; CURRENT APPLICATION NUMBER: US/09/802,686
; CURRENT FILING DATE: 2001-03-09
; PRIOR APPLICATION NUMBER: 60/188,583
; PRIOR FILING DATE: 2000-03-10
; NUMBER OF SEQ ID NOS: 10
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US-09-802-686-1
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; Patent No. US20020028784A1
; GENERAL INFORMATION:
; APPLICANT: Van Nest, Gary
; APPLICANT: Eiden, Joseph J., Jr.
; TITLE OF INVENTION: METHODS OF PREVENTING AND TREATING VIRAL
; TITLE OF INVENTION: INFECTIONS USING IMMUNOMODULATORY POLYNUCLEOTIDE SEQUENCES
; FILE REFERENCE: 377882001600
; CURRENT APPLICATION NUMBER: US/09/802,685
; CURRENT FILING DATE: 2001-03-09
; PRIOR APPLICATION NUMBER: U.S. 60/188,302
; PRIOR FILING DATE: 2000-03-10
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; Patent No. US20020042387A1
; GENERAL INFORMATION:
; APPLICANT: Raz, Eyal
; APPLICANT: Rachmilewitz, Daniel
; TITLE OF INVENTION: Method for Treating Inflammatory Bowel
; TITLE OF INVENTION: Disease and Other Forms of Gastrointestinal Inflammation.
; FILE REFERENCE: 6510-2020S1
; CURRENT APPLICATION NUMBER: US/09/791,500
; CURRENT FILING DATE: 2001-02-22
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/ GENERAL INFORMATION:
/ APPLICANT: Van Nest, Gary
/ APPLICANT: Tuck, Stephen
/ TITLE OF INVENTION: IMMUNOMODULATORY FORMULATIONS AND METHODS FOR USE THEREOF
/ FILE REFERENCE: 3778201700
/ CURRENT APPLICATION NUMBER: US/09/802,376
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/ PRIOR APPLICATION NUMBER: 60/188,557
/ PRIOR FILING DATE: 2000-03-10
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US-09-802-376-1

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/ GENERAL INFORMATION:
/ APPLICANT: Eyal Raz
/ APPLICANT: Richard Kornbluth
/ APPLICANT: Antonio Catanzaro
/ APPLICANT: Tomoko Hayashi
/ APPLICANT: Dennis Carson
/ TITLE OF INVENTION: Immunomodulatory Polynucleotides in
/ TITLE OF INVENTION: Treatment of Infection by an Intracellular Pathogen
/ FILE REFERENCE: UCAL166
/ CURRENT APPLICATION NUMBER: US/09/774,403A
/ CURRENT FILING DATE: 2002-04-15
/ PRIOR APPLICATION NUMBER: 60/179,353
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/ Patent No. US20020098199A1
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/ APPLICANT: Van Nest, Gary
/ APPLICANT: Eiden, Joseph J. Jr.
/ TITLE OF INVENTION: METHODS OF SUPPRESSING HEPATITIS VIRUS
/ TITLE OF INVENTION: INFECTION USING IMMUNOMODULATORY POLYNUCLEOTIDE SEQUENCES
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/ PRIOR FILING DATE: 2000-03-10
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/ GENERAL INFORMATION:
/ APPLICANT: Van Nest, Gary
/ APPLICANT: Eiden, Joseph J. Jr.
/ TITLE OF INVENTION: METHODS OF REDUCING PAPILLOMAVIRUS INFECTION USING IMMUNOMODULATO
/ FILE REFERENCE: 37782001300
/ CURRENT APPLICATION NUMBER: US/09/802,445
/ CURRENT FILING DATE: 2001-09-24
/ PRIOR APPLICATION NUMBER: 60/188,265
/ PRIOR FILING DATE: 2000-03-10
/ NUMBER OF SEQ ID NOS: 8
/ SOFTWARE: FastSeq for Windows Version 4.0
/ SEQ ID NO 1
/ LENGTH: 22
/ TYPE: DNA
/ ORGANISM: Artificial Sequence
/ FEATURE:
/ OTHER INFORMATION: Polynucleotide containing CG
US-09-802-445-1

Query Match          100.0%; Score 22; DB 9; Length 22;
Best Local Similarity 100.0%; Pred. No. 0.36;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy      1 TGACTGTGAACGTTGAGATGA 22
        |||||
Db      1 TGACTGTGAACGTTGAGATGA 22

RESULT 8
US-09-820-484-1
/ Sequence 1, Application US/09820484
/ Patent No. US20020142977A1
/ GENERAL INFORMATION:
/ APPLICANT: Raz, Eyal
/ APPLICANT: Cho, Hearn Jay
/ APPLICANT: Richman, Douglas A.
/ APPLICANT: Horner, Anthony A.
/ TITLE OF INVENTION: Method for Increasing a Cytotoxic T
/ TITLE OF INVENTION: Lymphocyte Response in vivo.
/ FILE REFERENCE: 06510-188US1
/ CURRENT APPLICATION NUMBER: US/09/820,484
/ CURRENT FILING DATE: 2001-03-28
/ PRIOR APPLICATION NUMBER: US 60/192,537
/ PRIOR FILING DATE: 2000-03-28
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; PRIOR APPLICATION NUMBER: US 60/203,567
; PRIOR FILING DATE: 2000-05-11
; PRIOR APPLICATION NUMBER: US 60/215,895
; PRIOR FILING DATE: 2000-07-05
; NUMBER OF SEQ ID NOS: 8
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 1
; LENGTH: 22
; TYPE: DNA
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Disulfide-linked phosphorothioate ISS-ODN
; NAME/KEY: modified_base
; LOCATION: (1)...(1)
; OTHER INFORMATION: disulfide thymine
US-09-820-484-1

Query Match          100.0%; Score 22; DB 9; Length 22;
Best Local Similarity 100.0%; Pred. No. 0.36;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY      1 TGAAGTGAACGTTGAGATGA 22
        |||
Db      1 TGAAGTGAACGTTGAGATGA 22

RESULT 9
US-09-820-484-3
; Sequence 3, Application US/09820484
; Patent No. US20020142977A1
; GENERAL INFORMATION:
; APPLICANT: Raz, Eyal
; APPLICANT: Cho, Hearn Jay
; APPLICANT: Richman, Douglas
; APPLICANT: Horner, Anthony A.
; TITLE OF INVENTION: Method for Increasing a Cytotoxic T
; FILE REFERENCE: 06510-188US1
; CURRENT APPLICATION NUMBER: US/09/820,484
; PRIOR FILING DATE: 2001-03-28
; PRIOR APPLICATION NUMBER: US 60/192,537
; PRIOR FILING DATE: 2000-03-28
; PRIOR APPLICATION NUMBER: US 60/203,567
; PRIOR FILING DATE: 2000-05-11
; PRIOR APPLICATION NUMBER: US 60/215,895
; PRIOR FILING DATE: 2000-07-05
; NUMBER OF SEQ ID NOS: 8
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 3
; LENGTH: 22
; TYPE: DNA
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: phosphorothioate ISS-ODN
US-09-820-484-3

Query Match          100.0%; Score 22; DB 9; Length 22;
Best Local Similarity 100.0%; Pred. No. 0.36;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY      1 TGAAGTGAACGTTGAGATGA 22
        |||
Db      1 TGAAGTGAACGTTGAGATGA 22

RESULT 10
US-09-828-505-1
; Sequence 1, Application US/09828505
; Patent No. US20020142978A1
; GENERAL INFORMATION:
; APPLICANT: Raz, Eyal
; APPLICANT: Takabayashi, Kenji
; APPLICANT: Nguyen, Minh-Duc
```

```

; TITLE OF INVENTION: Synergistic Improvements to
; TITLE OF INVENTION: Polynucleotide Vaccines
; FILE REFERENCE: 6510-203
; CURRENT APPLICATION NUMBER: US/09/828,505
; PRIOR FILING DATE: 2001-04-06
; PRIOR APPLICATION NUMBER: 60/195,890
; PRIOR FILING DATE: 2000-04-07
; NUMBER OF SEQ ID NOS: 4
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 1
; LENGTH: 22
; TYPE: DNA
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Immunomodulatory nucleic acid sequence
US-09-828-505-1

Query Match          100.0%; Score 22; DB 9; Length 22;
Best Local Similarity 100.0%; Pred. No. 0.36;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY      1 TGAAGTGAACGTTGAGATGA 22
        |||
Db      1 TGAAGTGAACGTTGAGATGA 22

RESULT 11
US-09-967-881-2
; Sequence 2, Application US/09967881
; Publication No. US20020192184A1
; GENERAL INFORMATION:
; APPLICANT: Assistance Publique - Hopitaux de Paris
; APPLICANT: Institut National de la Sante et de la Recherche M
; APPLICANT: Carpentier, Antoine
; TITLE OF INVENTION: Use of Stabilised Oligonucleotides for Preparing A Medicament wit
; FILE REFERENCE: 267/246 US
; CURRENT APPLICATION NUMBER: US/09/967,881
; PRIOR FILING DATE: 2001-09-28
; NUMBER OF SEQ ID NOS: 48
; SOFTWARE: PatentIn version 3.1
; SEQ ID NO 2
; LENGTH: 22
; TYPE: DNA
; ORGANISM: Artificial sequence
; FEATURE:
; OTHER INFORMATION: Oligodeoxynucleotide
US-09-967-881-2

Query Match          100.0%; Score 22; DB 9; Length 22;
Best Local Similarity 100.0%; Pred. No. 0.36;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY      1 TGAAGTGAACGTTGAGATGA 22
        |||
Db      1 TGAAGTGAACGTTGAGATGA 22

RESULT 12
US-09-927-422A-1
; Sequence 1, Application US/09927422A
; Publication No. US20030022852A1
; GENERAL INFORMATION:
; APPLICANT: Van Nest, Gary
; APPLICANT: Tuck, Stephen
; APPLICANT: Fearon, Karen L.
; APPLICANT: Dina, Dino
; TITLE OF INVENTION: BIODEGRADABLE IMMUNOMODULATORY
; TITLE OF INVENTION: FORMULATIONS AND METHODS FOR USE THEREOF
; FILE REFERENCE: 377882001420
; CURRENT APPLICATION NUMBER: US/09/927,422A
; PRIOR FILING DATE: 2001-08-10
; PRIOR APPLICATION NUMBER: U.S. 09/802,359
```

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; PRIOR FILING DATE: 2001-03-09
; PRIOR APPLICATION NUMBER: U.S. 60/188,30
; PRIOR FILING DATE: 2000-03-10
; NUMBER OF SEQ ID NOS: 23
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 1
; LENGTH: 22
; TYPE: DNA
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Polynucleotide containing CG
US-09-927-422A-1

Query Match          100.0%; Score 22; DB 10; Length 22;
Best Local Similarity 100.0%; Pred. No. 0.36;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY      1 TGAAGTGAACGTTGAGATGA 22
Db      1 TGAAGTGAACGTTGAGATGA 22

RESULT 13
US-09-738-046A-3
; Sequence 3, Application US/09738046A
; Publication No. US20030054007A1
; GENERAL INFORMATION:
; APPLICANT: FELGNER, PHILIP L.
; APPLICANT: ZELPHATI, OLIVER
; TITLE OF INVENTION: INTRACELLULAR PROTEIN DELIVERY
; TITLE OF INVENTION: COMPOSITIONS AND METHODS OF USE
; FILE REFERENCE: GTSYS.004A
; CURRENT FILING DATE: 2000-12-15
; NUMBER OF SEQ ID NOS: 3
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 3
; LENGTH: 22
; TYPE: DNA
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: artificial sequence containing CpG sequence
US-09-738-046A-3

Query Match          100.0%; Score 22; DB 10; Length 22;
Best Local Similarity 100.0%; Pred. No. 0.36;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY      1 TGAAGTGAACGTTGAGATGA 22
Db      1 TGAAGTGAACGTTGAGATGA 22

RESULT 14
US-09-927-884-1
; Sequence 1, Application US/09927884
; Publication No. US20030059773A1
; GENERAL INFORMATION:
; APPLICANT: Van Nest, Gary
; APPLICANT: Tuck, Stephen L.
; APPLICANT: Fearon, Karen L.
; APPLICANT: Dina, Dino
; TITLE OF INVENTION: IMMUNOMODULATORY FORMULATIONS AND
; TITLE OF INVENTION: METHODS FOR USE THEREOF
; FILE REFERENCE: 377882001720
; CURRENT APPLICATION NUMBER: US/09/927,884
; CURRENT FILING DATE: 2001-08-10
; PRIOR APPLICATION NUMBER: U.S. 09/802,376
; PRIOR FILING DATE: 2001-03-09
; PRIOR APPLICATION NUMBER: U.S. 60/188,557
; PRIOR FILING DATE: 2000-03-10
; NUMBER OF SEQ ID NOS: 14
; SOFTWARE: FastSeq for Windows Version 4.0
```

```

; SEQ ID NO 1
; LENGTH: 22
; TYPE: DNA
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Polynucleotide containing CG
US-09-927-884-1

Query Match          100.0%; Score 22; DB 10; Length 22;
Best Local Similarity 100.0%; Pred. No. 0.36;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY      1 TGAAGTGAACGTTGAGATGA 22
Db      1 TGAAGTGAACGTTGAGATGA 22

RESULT 15
US-09-802-359-1
; Sequence 1, Application US/09802359
; Publication No. US20030129251A1
; GENERAL INFORMATION:
; APPLICANT: Van Nest, Gary
; APPLICANT: Tuck, Stephen
; TITLE OF INVENTION: IMMUNOMODULATORY FORMULATIONS AND METHODS FOR USE THEREOF
; FILE REFERENCE: 37788201400
; CURRENT APPLICATION NUMBER: US/09/802,359
; CURRENT FILING DATE: 2001-03-09
; PRIOR APPLICATION NUMBER: 60/188,303
; PRIOR FILING DATE: 2000-03-10
; NUMBER OF SEQ ID NOS: 11
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 11
; LENGTH: 22
; TYPE: DNA
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Polynucleotide containing CG
US-09-802-359-1

Query Match          100.0%; Score 22; DB 10; Length 22;
Best Local Similarity 100.0%; Pred. No. 0.36;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY      1 TGAAGTGAACGTTGAGATGA 22
Db      1 TGAAGTGAACGTTGAGATGA 22

RESULT 16
US-09-967-464-19
; Sequence 19, Application US/09967464
; Publication No. US20030138453A1
; GENERAL INFORMATION:
; APPLICANT: O'Hagan, Derek
; APPLICANT: Otten, Gillis
; APPLICANT: Donnelly, John J.
; APPLICANT: Polo, John W.
; APPLICANT: Barnett, Susan
; APPLICANT: Singh, Mamohan
; APPLICANT: Ulmer, Jeffrey
; APPLICANT: Dubensky, Jr., Thomas W.
; TITLE OF INVENTION: MICROPARTICLES FOR DELIVERY OF HETEROLOGOUS NUCLEIC ACIDS
; FILE REFERENCE: PPI6269.004
; CURRENT APPLICATION NUMBER: US/09/967,464
; CURRENT FILING DATE: 2002-04-11
; PRIOR APPLICATION NUMBER: 60/236,105
; PRIOR FILING DATE: 2000-09-28
; PRIOR APPLICATION NUMBER: 60/315,905
; PRIOR FILING DATE: 2001-08-30
; NUMBER OF SEQ ID NOS: 68
; SOFTWARE: PatentIn version 3.1
; SEQ ID NO 19
```

```
; LENGTH: 22
; TYPE: DNA
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Artificial sequence is synthesized
US-09-967-464-19

Query Match          100.0%; Score 22; DB 10; Length 22;
Best Local Similarity 100.0%; Pred. No. 0.36;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 TGACTGTGAACGTTGAGATGA 22
    |||
Db 1 TGACTGTGAACGTTGAGATGA 22

RESULT 17
US-09-848-986-1
; Sequence 1, Application US/09848986
; Publication No. US20030176373A1
; GENERAL INFORMATION:
; APPLICANT: Raz, Eyal
; APPLICANT: Lois, Augusto F.
; TITLE OF INVENTION: Agents that Modulate DNA-PK Activity and
; FILE REFERENCE: 06510168US1
; CURRENT APPLICATION NUMBER: US/09/848,986
; PRIOR FILING DATE: 2001-05-03
; PRIOR APPLICATION NUMBER: us 60/262321
; PRIOR FILING DATE: 2001-01-17
; PRIOR APPLICATION NUMBER: us 60/202,274
; PRIOR FILING DATE: 2000-05-05
; NUMBER OF SEQ ID NOS: 21
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 1
; LENGTH: 22
; TYPE: DNA
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: ISS-ODN
US-09-848-986-1

Query Match          100.0%; Score 22; DB 10; Length 22;
Best Local Similarity 100.0%; Pred. No. 0.36;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 TGACTGTGAACGTTGAGATGA 22
    |||
Db 1 TGACTGTGAACGTTGAGATGA 22

RESULT 18
US-10-056-420-4
; Sequence 4, Application US/10056420
; Publication No. US20030044428A1
; GENERAL INFORMATION:
; APPLICANT: Moss, Ronald B.
; APPLICANT: Carlo, Dennis J.
; TITLE OF INVENTION: Method For Treating an HIV-Infected
; TITLE OF INVENTION: Individual By Combining Immunization With Structured
; FILE REFERENCE: P-IM 5158
; CURRENT APPLICATION NUMBER: US/10/056,420
; PRIOR FILING DATE: 2002-01-24
; PRIOR APPLICATION NUMBER: US 60/264,476
; PRIOR FILING DATE: 2001-01-26
; NUMBER OF SEQ ID NOS: 5
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 4
; LENGTH: 22
; TYPE: DNA
; ORGANISM: Artificial Sequence
```

```
; FEATURE:
; OTHER INFORMATION: exemplary ISS sequence
US-10-056-420-4

Query Match          100.0%; Score 22; DB 14; Length 22;
Best Local Similarity 100.0%; Pred. No. 0.36;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 TGACTGTGAACGTTGAGATGA 22
    |||
Db 1 TGACTGTGAACGTTGAGATGA 22

RESULT 19
US-10-033-243-2
; Sequence 2, Application US/10033243
; Publication No. US20030049266A1
; GENERAL INFORMATION:
; APPLICANT: FEARON, Karen L.
; APPLICANT: DINA, Dino
; TITLE OF INVENTION: IMMUNOMODULATORY POLYNUCLEOTIDES AND
; FILE REFERENCE: 377882001800
; CURRENT APPLICATION NUMBER: US/10/033,243
; PRIOR FILING DATE: 2002-04-03
; PRIOR APPLICATION NUMBER: 60/258,675
; PRIOR FILING DATE: 2000-12-27
; NUMBER OF SEQ ID NOS: 133
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 2
; LENGTH: 22
; TYPE: DNA
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Polynucleotide containing CG
US-10-033-243-2

Query Match          100.0%; Score 22; DB 14; Length 22;
Best Local Similarity 95.5%; Pred. No. 0.36;
Matches 21; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY 1 TGACTGTGAACGTTGAGATGA 22
    |||
Db 1 TGACTGTGAACGTTGAGATGA 22

RESULT 20
US-10-033-243-40
; Sequence 40, Application US/10033243
; Publication No. US20030049266A1
; GENERAL INFORMATION:
; APPLICANT: FEARON, Karen L.
; APPLICANT: DINA, Dino
; TITLE OF INVENTION: IMMUNOMODULATORY POLYNUCLEOTIDES AND
; TITLE OF INVENTION: METHODS OF USING THE SAME
; FILE REFERENCE: 377882001800
; CURRENT APPLICATION NUMBER: US/10/033,243
; PRIOR FILING DATE: 2002-04-03
; PRIOR APPLICATION NUMBER: 60/258,675
; PRIOR FILING DATE: 2000-12-27
; NUMBER OF SEQ ID NOS: 133
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 40
; LENGTH: 22
; TYPE: DNA
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Polynucleotide containing CG
US-10-033-243-40

Query Match          100.0%; Score 22; DB 14; Length 22;
Best Local Similarity 95.5%; Pred. No. 0.36;
Matches 21; Conservative 1; Mismatches 0; Indels 0; Gaps 0;
```



```

QY      1 TGA CTGTG AACGTT CGAGATGA 22
          ||||| : |||||
DB      1 TGA CTGTG AACGTU CGAGATGA 22

```

```

; RESULT 21
; US-10-033-243-59
; Sequence 59, Application US/10033243
; Publication No. US20030049266a1
; GENERAL INFORMATION:
; APPLICANT: FEARON, Karen L.
; APPLICANT: DINA, Dino
; TITLE OF INVENTION: IMMUNOMODULATORY POLYNUCLEOTIDES AND
; FILE OF INVENTION: METHODS OF USING THE SAME
; FILE REFERENCE: 37782001800
; CURRENT APPLICATION NUMBER: US/10/033,243
; CURRENT FILING DATE: 2002-04-03
; PRIOR APPLICATION NUMBER: 60/258,675
; PRIOR FILING DATE: 2000-12-27
; NUMBER OF SEQ ID NOS: 133
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 59
; LENGTH: 22
; TYPE: DNA
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Polynucleotide containing CG
; US-10-033-243-59

```

Query Match	100.0%;	Score 22;	DB 14;	Length 22;
Best Local Similarity	100.0%;	Pred. No. 0.36;		
Matches 22;	Conservative 0;	Mismatches 0;	Indels 0;	Gaps 0

```

oy      1 TGACTGTGACCGTTCGAGATGA 22
         |||||
Db      1 TGACTGTGAACGTTGAGATGA 22

```

```

RESULT 22
US-10-214-288-1
Sequence 1, Application US/10214288
Publication No. US20030064064A1
GENERAL INFORMATION:
APPLICANT: Dino, Dina
TITLE OF INVENTION: Methods of Treating IGE-Associated
TITLE OF INVENTION: Disorders and Compositions for Use Therein
FILE REFERENCE: 37788200601
CURRENT APPLICATION NUMBER: US/10/214,288
PRIOR FILING DATE: 2002-08-06
PRIOR APPLICATION NUMBER: US 09/397,198
PRIOR FILING DATE: 1999-09-16
PRIOR APPLICATION NUMBER: US 60/100,838
PRIOR FILING DATE: 1998-09-18
PRIOR APPLICATION NUMBER: US 60/136,600
PRIOR FILING DATE: 1999-05-28
NUMBER OF SEQ ID NOS: 1
SOFTWARE: FastSeq for Windows Version 3.0
SEQ ID NO 1
LENGTH: 22
TYPE: DNA
ORGANISM: Unknown
FEATURE:
OTHER INFORMATION: ISS sequence
US-10-214-288-1

```

Query Match	100.0%;	Score 22;	DB 14;	Length 22;
Best Local Similarity	100.0%;	Pred. No. 0.36;		
Matches 22;	Conservative 0;	Mismatches 0;	Indels 0;	Gaps 0

Oy	1	TGACTGTGAACGTTGCAGATGA	22
Db	1	TGACTGTGAACGTTGCAGATGA	22

```

RESULT 23
US-10-099-512-1
; Sequence 1, Application US/10099512
; Publication No. US20030078223A1
; GENERAL INFORMATION:
; APPLICANT: Raz, Eyal
; APPLICANT: Broide, David
; TITLE OF INVENTION: Compositions and Methods for Modulating
; TITLE OF INVENTION: an Immune Response
; FILE REFERENCE: USAL-170CIP15
; CURRENT APPLICATION NUMBER: US/10/099,512
; PRIOR FILING DATE: 2002-03-15
; PRIOR APPLICATION NUMBER: 09/1235,742
; PRIOR FILING DATE: 1999-01-21
; PRIOR APPLICATION NUMBER: 08/927,120
; PRIOR FILING DATE: 1997-09-05
; PRIOR APPLICATION NUMBER: 09/265,191
; PRIOR FILING DATE: 1999-03-10
; PRIOR APPLICATION NUMBER: 08/593,554
; PRIOR FILING DATE: 1996-01-30
; PRIOR APPLICATION NUMBER: 60/276,865
; PRIOR FILING DATE: 2001-03-16
; NUMBER OF SEQ ID NOS: 4
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 1
; LENGTH: 22
; TYPE: DNA
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: synthetic DNA
US-10-099-512-1

```

Query Match	100.0%;	Score 22;	DB 14;	Length 22;
Best Local Similarity	100.0%;	Pred. No. 0.36;		
Matches 22;	Conservative 0;	Mismatches 0;	Indels 0;	Gaps 0

[illegible]

```

RESULT 24
US-10-229-208-19
; Sequence 19, Application US/10229208
; Publication No. US20030092653A1
; GENERAL INFORMATION:
; APPLICANT: Raz, Eyal
; TITLE OF INVENTION: Immunization-Free Methods for Treating
; TITLE OF INVENTION: Antigen-Stimulated Inflammation in a Mammalian Host and
; TITLE OF INVENTION: Shifting the Host's Antigen Immune Responsiveness to a TH1
; TITLE OF INVENTION: Phenotype
; FILE REFERENCE: UCAL-170CON9
; CURRENT APPLICATION NUMBER: US//10/229,208
; CURRENT FILING DATE: 2002-12-05
; PRIOR APPLICATION NUMBER: 09/235,742
; PRIOR FILING DATE: 1999-01-21
; PRIOR APPLICATION NUMBER: 08/927,120
; PRIOR FILING DATE: 1997-09-15
; NUMBER OF SEQ ID NOS: 20
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 19
;
; LENGTH: 22
; TYPE: DNA
; ORGANISM: Artificial Sequence
FEATURES:
; OTHER INFORMATION: Recombinant or Synthetic Sequence with a
; OTHER INFORMATION: phosphothioate backbone
US-10-229-208-19

```

Query Match	100.0%;	Score 22;	DB 14;	Length 22;
Best Local Similarity	100.0%;	Pred. No.	0.36;	

```
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 TGAAGTGAACGTTGAGATGA 22
   |||||
Db 1 TGAAGTGAACGTTGAGATGA 22

RESULT 25
US-10-253-117-32
; Sequence 32, Application US/10253117
; Publication No. US20030119773A1
; GENERAL INFORMATION:
; APPLICANT: RAZ, Eyal R.
; APPLICANT: KOBAYASHI, Hiroko
; TITLE OF INVENTION: METHOD FOR ENHANCING AN IMMUNE RESPONSE
; FILE REFERENCE: 30448.64US01
; CURRENT FILING DATE: 2002-09-23
; PRIOR FILING DATE: 1999-07-02
; NUMBER OF SEQ ID NOS: 40
; SOFTWARE: FastSeq for Windows Version 3.0
; SEQ ID NO 32
; LENGTH: 22
; TYPE: DNA
; ORGANISM: synthetic oligonucleotide
US-10-253-117-32

Query Match 100.0%; Score 22; DB 15; Length 22;
Best Local Similarity 100.0%; Pred. No. 0.36;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 TGAAGTGAACGTTGAGATGA 22
   |||||
Db 1 TGAAGTGAACGTTGAGATGA 22

RESULT 26
US-10-233-121A-1
; Sequence 1, Application US/10233121A
; Publication No. US20030125284A1
; GENERAL INFORMATION:
; APPLICANT: RAZ, Eyal
; APPLICANT: LOIS, AUGUSTO
; APPLICANT: TAKABAYASHI, KENJI
; TITLE OF INVENTION: AGENTS THAT MODULATE DNA-PK ACTIVITY AND
; FILE REFERENCE: UCAL-168DIV
; CURRENT FILING DATE: 2003-03-11
; PRIOR FILING DATE: 2001-05-04
; PRIOR FILING DATE: 2001-05-04
; PRIOR FILING DATE: 2000-05-05
; PRIOR FILING DATE: 2000-05-05
; PRIOR FILING DATE: 2001-01-17
; NUMBER OF SEQ ID NOS: 21
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 1
; LENGTH: 22
; TYPE: DNA
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: phosphodiester or phosphorothioate oligonucleotide
US-10-233-121A-1

Query Match 100.0%; Score 22; DB 15; Length 22;
Best Local Similarity 100.0%; Pred. No. 0.36;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 TGAAGTGAACGTTGAGATGA 22
   |||||
Db 1 TGAAGTGAACGTTGAGATGA 22
```

```
RESULT 27
US-10-219-143-1
; Sequence 1, Application US/10219143
; Publication No. US20030130217A1
; GENERAL INFORMATION:
; APPLICANT: RAZ, Eyal
; APPLICANT: Rachmilewitz, Daniel
; TITLE OF INVENTION: Disease and Other Forms of Gastrointestinal Inflammation.
; FILE REFERENCE: 6510-202US1
; CURRENT FILING DATE: 2002-08-13
; PRIOR FILING DATE: 2001-02-22
; NUMBER OF SEQ ID NOS: 39
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 1
; LENGTH: 22
; TYPE: DNA
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: synthetic polynucleotide sequence
US-10-219-143-1

Query Match 100.0%; Score 22; DB 15; Length 22;
Best Local Similarity 100.0%; Pred. No. 0.36;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 TGAAGTGAACGTTGAGATGA 22
   |||||
Db 1 TGAAGTGAACGTTGAGATGA 22

RESULT 28
US-10-214-799-2
; Sequence 2, Application US/10214799
; Publication No. US20030133988A1
; GENERAL INFORMATION:
; APPLICANT: Pearson, Karen L. and Dina, Dino
; TITLE OF INVENTION: IMMUNOMODULATORY COMPOSITIONS,
; FILE REFERENCE: F08003100
; CURRENT FILING DATE: 2002-08-07
; PRIOR FILING DATE: 2001-10-25
; PRIOR FILING DATE: 2001-08-07
; PRIOR FILING DATE: 2001-08-07
; PRIOR FILING DATE: 2001-10-25
; NUMBER OF SEQ ID NOS: 2
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 2
; LENGTH: 22
; TYPE: DNA
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Synthetic construct
US-10-214-799-2

Query Match 100.0%; Score 22; DB 15; Length 22;
Best Local Similarity 100.0%; Pred. No. 0.36;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 TGAAGTGAACGTTGAGATGA 22
   |||||
Db 1 TGAAGTGAACGTTGAGATGA 22

RESULT 29
US-10-340-275-1
; Sequence 1, Application US/10340275
; Publication No. US20030143213A1
```

```
/ GENERAL INFORMATION:
/ APPLICANT: Raz, Eyal
/ APPLICANT: Cho, Hearn Jay
/ APPLICANT: Richman, Douglas
/ APPLICANT: Horner, Anthony A.
/ TITLE OF INVENTION: Method for Increasing a Cytotoxic T
/ TITLE OF INVENTION: Lymphocyte Response in vivo.
/ FILE REFERENCE: UCAL-188DIY
/ CURRENT APPLICATION NUMBER: US/10/340,275
/ PRIOR FILING DATE: 2003-01-10
/ PRIOR APPLICATION NUMBER: 09/820,484
/ PRIOR FILING DATE: 2001-03-28
/ PRIOR APPLICATION NUMBER: US 60/192,537
/ PRIOR FILING DATE: 2000-03-28
/ PRIOR APPLICATION NUMBER: US 60/203,567
/ PRIOR FILING DATE: 2000-05-11
/ PRIOR APPLICATION NUMBER: US 60/215,895
/ PRIOR FILING DATE: 2000-07-05
/ NUMBER OF SEQ ID NOS: 8
/ SOFTWARE: FastSeq for Windows Version 4.0
/ SEQ ID NO 1
/ LENGTH: 22
/ TYPE: DNA
/ ORGANISM: Artificial Sequence
/ FEATURE:
/ OTHER INFORMATION: Disulfide-linked phosphorothioate ISS-ODN
/ NAME/KEY: modified base
/ LOCATION: (1)...(1)
/ OTHER INFORMATION: disulfide thymine
US-10-340-275-1
```

```
Query Match          100.0%; Score 22; DB 15; Length 22;
Best Local Similarity 100.0%; Pred. No. 0.36;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
```

```
Qy 1 TGACTGTGAACGTTGCAGATGA 22
Db 1 TGACTGTGAACGTTGCAGATGA 22
```

```
RESULT 30
US-10-340-275-3
/ Sequence 3, Application US/10340275
/ Publication No. US20030143213A1
/ GENERAL INFORMATION:
/ APPLICANT: Raz, Eyal
/ APPLICANT: Cho, Hearn Jay
/ APPLICANT: Richman, Douglas
/ APPLICANT: Horner, Anthony A.
/ TITLE OF INVENTION: Method for Increasing a Cytotoxic T
/ TITLE OF INVENTION: Lymphocyte Response in vivo.
/ FILE REFERENCE: UCAL-188DIY
/ CURRENT APPLICATION NUMBER: US/10/340,275
/ PRIOR FILING DATE: 2003-01-10
/ PRIOR APPLICATION NUMBER: 09/820,484
/ PRIOR FILING DATE: 2001-03-28
/ PRIOR APPLICATION NUMBER: US 60/192,537
/ PRIOR FILING DATE: 2000-03-28
/ PRIOR APPLICATION NUMBER: US 60/203,567
/ PRIOR FILING DATE: 2000-05-11
/ PRIOR APPLICATION NUMBER: US 60/215,895
/ PRIOR FILING DATE: 2000-07-05
/ NUMBER OF SEQ ID NOS: 8
/ SOFTWARE: FastSeq for Windows Version 4.0
/ SEQ ID NO 3
/ LENGTH: 22
/ TYPE: DNA
/ ORGANISM: Artificial Sequence
/ FEATURE:
/ OTHER INFORMATION: phosphorothioate ISS-ODN
US-10-340-275-3
```

```
Query Match          100.0%; Score 22; DB 15; Length 22;
Best Local Similarity 100.0%; Pred. No. 0.36;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
```

```
Qy 1 TGACTGTGAACGTTGCAGATGA 22
Db 1 TGACTGTGAACGTTGCAGATGA 22
```

```
RESULT 31
US-10-339-885-1
/ Sequence 1, Application US/10339885
/ Publication No. US20030147870A1
/ GENERAL INFORMATION:
/ APPLICANT: Raz, Eyal
/ APPLICANT: Cho, Hearn Jay
/ APPLICANT: Richman, Douglas
/ APPLICANT: Horner, Anthony A.
/ TITLE OF INVENTION: Method for Increasing a Cytotoxic T
/ TITLE OF INVENTION: Lymphocyte Response in vivo.
/ FILE REFERENCE: UCAL-188CON
/ CURRENT APPLICATION NUMBER: US/10/339,885
/ PRIOR FILING DATE: 2003-01-10
/ PRIOR APPLICATION NUMBER: 09/820,484
/ PRIOR FILING DATE: 2001-03-28
/ PRIOR APPLICATION NUMBER: US 60/192,537
/ PRIOR FILING DATE: 2000-03-28
/ PRIOR APPLICATION NUMBER: US 60/203,567
/ PRIOR FILING DATE: 2000-05-11
/ PRIOR APPLICATION NUMBER: US 60/215,895
/ PRIOR FILING DATE: 2000-07-05
/ NUMBER OF SEQ ID NOS: 8
/ SOFTWARE: FastSeq for Windows Version 4.0
/ SEQ ID NO 1
/ LENGTH: 22
/ TYPE: DNA
/ ORGANISM: Artificial Sequence
/ FEATURE:
/ OTHER INFORMATION: Disulfide-linked phosphorothioate ISS-ODN
/ NAME/KEY: modified base
/ LOCATION: (1)...(1)
/ OTHER INFORMATION: disulfide thymine
US-10-339-885-1
```

```
Query Match          100.0%; Score 22; DB 15; Length 22;
Best Local Similarity 100.0%; Pred. No. 0.36;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
```

```
Qy 1 TGACTGTGAACGTTGCAGATGA 22
Db 1 TGACTGTGAACGTTGCAGATGA 22
```

```
RESULT 32
US-10-339-885-3
/ Sequence 3, Application US/10339885
/ Publication No. US20030147870A1
/ GENERAL INFORMATION:
/ APPLICANT: Raz, Eyal
/ APPLICANT: Cho, Hearn Jay
/ APPLICANT: Richman, Douglas
/ APPLICANT: Horner, Anthony A.
/ TITLE OF INVENTION: Method for Increasing a Cytotoxic T
/ TITLE OF INVENTION: Lymphocyte Response in vivo.
/ FILE REFERENCE: UCAL-188CON
/ CURRENT APPLICATION NUMBER: US/10/339,885
/ PRIOR FILING DATE: 2003-01-10
/ PRIOR APPLICATION NUMBER: 09/820,484
/ PRIOR FILING DATE: 2001-03-28
/ PRIOR APPLICATION NUMBER: US 60/192,537
/ PRIOR FILING DATE: 2000-03-28
/ PRIOR APPLICATION NUMBER: US 60/203,567
```

```
; PRIOR FILING DATE: 2000-05-11
; PRIOR APPLICATION NUMBER: US 60/215,895
; PRIOR FILING DATE: 2000-07-05
; NUMBER OF SEQ ID NOS: 8
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 3
; LENGTH: 22
; TYPE: DNA
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: phosphorothioate ISS-ODN
US-10-339-885-3
```

```
Query Match          100.0%; Score 22; DB 15; Length 22;
Best Local Similarity 100.0%; Pred. No. 0.36;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
```

```
QY      1 TGACTGTGAACGTTGCGATGA 22
        |||||||
Db       1 TGACTGTGAACGTTGCGATGA 22
```

```
RESULT 33
US-10-176-883-2
; Sequence 2, Application US/10176883
; Publication No. US20030175731A1
; GENERAL INFORMATION:
; APPLICANT: Fearon, Karen
; APPLICANT: Dina, Dino
; APPLICANT: Tuck, Stephen
; TITLE OF INVENTION: CHIMERIC IMMUNOMODULATORY COMPOUNDS AND
; FILE REFERENCE: 377882002000
; CURRENT APPLICATION NUMBER: US/10/176,883
; CURRENT FILING DATE: 2002-06-21
; PRIOR APPLICATION NUMBER: 60/239,883
; PRIOR FILING DATE: 2001-06-21
; PRIOR APPLICATION NUMBER: 60/375,253
; PRIOR FILING DATE: 2002-04-23
; NUMBER OF SEQ ID NOS: 141
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 2
; LENGTH: 22
; TYPE: DNA
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Synthetic construct
US-10-176-883-2
```

```
Query Match          100.0%; Score 22; DB 15; Length 22;
Best Local Similarity 100.0%; Pred. No. 0.36;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
```

```
QY      1 TGACTGTGAACGTTGCGATGA 22
        |||||||
Db       1 TGACTGTGAACGTTGCGATGA 22
```

```
RESULT 34
US-10-176-883-24
; Sequence 24, Application US/10176883
; Publication No. US20030175731A1
; GENERAL INFORMATION:
; APPLICANT: Fearon, Karen
; APPLICANT: Dina, Dino
; APPLICANT: Tuck, Stephen
; TITLE OF INVENTION: CHIMERIC IMMUNOMODULATORY COMPOUNDS AND
; FILE REFERENCE: 377882002000
; CURRENT APPLICATION NUMBER: US/10/176,883
; CURRENT FILING DATE: 2002-06-21
; PRIOR APPLICATION NUMBER: 60/239,883
; PRIOR FILING DATE: 2001-06-21
```

```
; PRIOR APPLICATION NUMBER: 60/375,253
; PRIOR FILING DATE: 2002-04-23
; NUMBER OF SEQ ID NOS: 141
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 24
; LENGTH: 22
; TYPE: DNA
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Synthetic construct
US-10-176-883-24
```

```
Query Match          100.0%; Score 22; DB 15; Length 22;
Best Local Similarity 95.5%; Pred. No. 0.36;
Matches 21; Conservative 1; Mismatches 0; Indels 0; Gaps 0;
```

```
QY      1 TGACTGTGAACGTTGCGATGA 22
        |||||||
Db       1 TGACTGTGAACGTTGCGATGA 22
```

```
RESULT 35
US-10-176-883-79
; Sequence 79, Application US/10176883
; Publication No. US20030175731A1
; GENERAL INFORMATION:
; APPLICANT: Fearon, Karen
; APPLICANT: Dina, Dino
; APPLICANT: Tuck, Stephen
; TITLE OF INVENTION: CHIMERIC IMMUNOMODULATORY COMPOUNDS AND
; FILE REFERENCE: 377882002000
; CURRENT APPLICATION NUMBER: US/10/176,883
; CURRENT FILING DATE: 2002-06-21
; PRIOR APPLICATION NUMBER: 60/239,883
; PRIOR FILING DATE: 2001-06-21
; PRIOR APPLICATION NUMBER: 60/375,253
; PRIOR FILING DATE: 2002-04-23
; NUMBER OF SEQ ID NOS: 141
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 79
; LENGTH: 22
; TYPE: DNA
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Synthetic construct
US-10-176-883-79
```

```
Query Match          100.0%; Score 22; DB 15; Length 22;
Best Local Similarity 95.5%; Pred. No. 0.36;
Matches 21; Conservative 1; Mismatches 0; Indels 0; Gaps 0;
```

```
QY      1 TGACTGTGAACGTTGCGATGA 22
        |||||||
Db       1 TGACTGTGAACGTTGCGATGA 22
```

```
RESULT 36
US-10-176-883-134
; Sequence 134, Application US/10176883
; Publication No. US20030175731A1
; GENERAL INFORMATION:
; APPLICANT: Fearon, Karen
; APPLICANT: Dina, Dino
; APPLICANT: Tuck, Stephen
; TITLE OF INVENTION: CHIMERIC IMMUNOMODULATORY COMPOUNDS AND
; FILE REFERENCE: 377882002000
; CURRENT APPLICATION NUMBER: US/10/176,883
; CURRENT FILING DATE: 2002-06-21
; PRIOR APPLICATION NUMBER: 60/239,883
; PRIOR FILING DATE: 2001-06-21
; PRIOR APPLICATION NUMBER: 60/375,253
```

/ PRIOR FILING DATE: 2002-04-23
/ NUMBER OF SEQ ID NOS: 141
/ SOFTWARE: FaastSeq for Windows Version 4.0
/ SEQ ID NO: 134
/ LENGTH: 22
/ TYPE: DNA
/ ORGANISM: Artificial Sequence
/ FEATURE:
/ OTHER INFORMATION: Synthetic construct
US-10-176-883-134

Query Match 100.0%; Score 22; DB 15; Length 22;
Best Local Similarity 100.0%; Pred. No. 0.36;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 TGACTGTGAACGTTGCAGATGA 22
DB 1 TGACTGTGAACGTTGCAGATGA 22

RESULT 37

US-10-412-151-1
/ Sequence 1, Application US/10412151
/ Publication No. US20030176389A1
/ GENERAL INFORMATION:
/ APPLICANT: Raz, Eyal
/ APPLICANT: Rachmilewitz, Daniel
/ TITLE OF INVENTION: Disease and Other Forms of Gastrointestinal Inflammation.
/ FILE REFERENCE: UCAL-202CON
/ CURRENT APPLICATION NUMBER: US/10/412,151
/ PRIOR FILING DATE: 2003-04-11
/ PRIOR APPLICATION NUMBER: 09/791,500
/ PRIOR FILING DATE: 2001-02-22
/ PRIOR APPLICATION NUMBER: 60/184,256
/ PRIOR FILING DATE: 2000-02-23
/ NUMBER OF SEQ ID NOS: 39
/ SOFTWARE: FaastSeq for Windows Version 4.0
/ SEQ ID NO 1
/ LENGTH: 22
/ TYPE: DNA
/ ORGANISM: Artificial Sequence
/ FEATURE:
/ OTHER INFORMATION: synthetic polynucleotide sequence
/ OTHER INFORMATION: oligonucleotide primer
/ OTHER INFORMATION: oligonucleotide primer
US-10-412-151-1

Query Match 100.0%; Score 22; DB 15; Length 22;
Best Local Similarity 100.0%; Pred. No. 0.36;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 TGACTGTGAACGTTGCAGATGA 22
DB 1 TGACTGTGAACGTTGCAGATGA 22

RESULT 38

US-10-177-826-2
/ Sequence 2, Application US/10177826
/ Publication No. US20030199466A1
/ GENERAL INFORMATION:
/ APPLICANT: Fearon, Karen
/ APPLICANT: Dina, Dino
/ APPLICANT: Tuck, Stephen
/ TITLE OF INVENTION: CHIMERIC IMMUNOMODULATORY COMPOUNDS AND
/ FILE REFERENCE: 377882002001
/ CURRENT APPLICATION NUMBER: US/10/177,826
/ PRIOR FILING DATE: 2002-06-21
/ PRIOR APPLICATION NUMBER: 60/299,883
/ PRIOR FILING DATE: 2001-06-21

/ PRIOR APPLICATION NUMBER: 60/375,253
/ PRIOR FILING DATE: 2002-04-23
/ NUMBER OF SEQ ID NOS: 141
/ SOFTWARE: FaastSeq for Windows Version 4.0
/ SEQ ID NO 2
/ LENGTH: 22
/ TYPE: DNA
/ ORGANISM: Artificial Sequence
/ FEATURE:
/ OTHER INFORMATION: Synthetic construct
US-10-177-826-2

Query Match 100.0%; Score 22; DB 15; Length 22;
Best Local Similarity 100.0%; Pred. No. 0.36;
Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 TGACTGTGAACGTTGCAGATGA 22
DB 1 TGACTGTGAACGTTGCAGATGA 22

RESULT 39

US-10-177-826-24
/ Sequence 24, Application US/10177826
/ Publication No. US20030199466A1
/ GENERAL INFORMATION:
/ APPLICANT: Fearon, Karen
/ APPLICANT: Dina, Dino
/ APPLICANT: Tuck, Stephen
/ TITLE OF INVENTION: CHIMERIC IMMUNOMODULATORY COMPOUNDS AND
/ FILE REFERENCE: 377882002001
/ CURRENT APPLICATION NUMBER: US/10/177,826
/ PRIOR FILING DATE: 2002-06-21
/ PRIOR APPLICATION NUMBER: 60/299,883
/ PRIOR FILING DATE: 2001-06-21
/ PRIOR APPLICATION NUMBER: 60/375,253
/ PRIOR FILING DATE: 2002-04-23
/ NUMBER OF SEQ ID NOS: 141
/ SOFTWARE: FaastSeq for Windows Version 4.0
/ SEQ ID NO 24
/ LENGTH: 22
/ TYPE: DNA
/ ORGANISM: Artificial Sequence
/ FEATURE:
/ OTHER INFORMATION: Synthetic construct
US-10-177-826-24

Query Match 100.0%; Score 22; DB 15; Length 22;
Best Local Similarity 95.5%; Pred. No. 0.36;
Matches 21; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY 1 TGACTGTGAACGTTGCAGATGA 22
DB 1 TGACTGTGAACGTTGCAGATGA 22

RESULT 40

US-10-177-826-79
/ Sequence 79, Application US/10177826
/ Publication No. US20030199466A1
/ GENERAL INFORMATION:
/ APPLICANT: Fearon, Karen
/ APPLICANT: Dina, Dino
/ APPLICANT: Tuck, Stephen
/ TITLE OF INVENTION: CHIMERIC IMMUNOMODULATORY COMPOUNDS AND
/ FILE REFERENCE: 377882002001
/ CURRENT APPLICATION NUMBER: US/10/177,826
/ PRIOR FILING DATE: 2002-06-21
/ PRIOR APPLICATION NUMBER: 60/299,883
/ PRIOR FILING DATE: 2001-06-21
/ PRIOR APPLICATION NUMBER: 60/375,253

; PRIOR FILING DATE: 2002-04-23
 ; NUMBER OF SEQ ID NOS: 141
 ; SOFTWARE: FastSeq for Windows Version 4.0
 ; SEQ ID NO 79
 ; LENGTH: 22
 ; TYPE: DNA
 ; ORGANISM: Artificial Sequence
 ; FEATURE:
 ; OTHER INFORMATION: Synthetic construct
 US-10-177-826-79

Query Match 100.0%; Score 22; DB 15; Length 22;
 Best Local Similarity 95.5%; Pred. No. 0.36;
 Matches 21; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

QY 1 TGACTGTGAACGTTGAGATGA 22
 |||||||:
 Db 1 TGACTGTGAACGTTGAGATGA 22

Search completed: October 30, 2004, 20:02:08
 Job time : 226 secs

GenCore version 5.1.6
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OM nucleic - nucleic search, using sw model

Run on: October 30, 2004, 18:28:02 ; Search time 1483 Seconds

(without alignments)
540.576 Million cell updates/sec

Title: US-09-802-376-1

Perfect score: 22

Sequence: 1 cgactgcgaacgtcgcagatga 22

Scoring table: IDENTITY NUC

Gapop 10.0, Gapext 1.0

Searched: 32822875 seqs, 18219865908 residues

Total number of hits satisfying chosen parameters: 664238

Minimum DB seq length: 0

Maximum DB seq length: 100

Post-processing: Minimum Match 0%

Maximum Match 100%

Listing first 100 summaries

Database :
1: gb_esc1:*
2: gb_esc2:*
3: gb_esc3:*
4: gb_esc4:*
5: gb_esc5:*
6: gb_esc6:*
7: gb_esc7:*
8: gb_esc8:*
9: gb_esc9:*

Prod. No. is the number of results predicted by chance to have a
score greater than or equal to the score of the result being printed,
and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	ID	Description
1	15.6	70.9	63	8	AZ431742 IM0216018
2	15.2	69.1	78	9	CG562292 OST184609
3	15.2	69.1	92	9	CG578258 OST15285
4	14.8	67.3	99	1	AI313875 SMOVAFCAP
5	14.8	67.3	100	9	BX356599 Arabidops
6	14.6	66.4	77	9	CLS21749 SRR1H12 F
7	14.6	66.4	93	9	CG552453 OST161720
8	14.2	64.5	72	1	BX127224 Danio rer
9	14.2	64.5	67	1	AA748429 ny01D05.8
10	14	63.6	73	9	AG221379 LOCUS cot
11	14	63.6	88	8	AZ583456 IM0378G03
12	14	63.6	96	4	BI445449 dae81a09.
13	13.6	61.8	58	1	AA840471 vw76e10.r
14	13.6	61.8	68	9	CLS24160 SMO6F04 F
15	13.6	61.8	68	9	CLS24162 SMO6G04 F
16	13.2	60.0	40	1	AA779179 z143c07.8
17	13.2	60.0	48	1	BH866537 SALK_1014
18	13.2	60.0	50	1	AU106360 AU106360
19	13.2	60.0	56	9	BX987365 Reverse s
20	13.2	60.0	81	9	AG218726 Drosoph11
21	13.2	60.0	96	7	CNS588245 TTE000028
22	13.2	60.0	99	9	AL951982 Arabidops
23	13.2	60.0	100	8	AZ350824 IM0152P20
24	13	59.1	61	1	AA836207 cd22h05.s

25	13	59.1	62	8	BH127397 G-1c17.r
26	13	59.1	68	1	AA104737
27	13	59.1	70	6	CD336672 RAE_81 Ge
28	13	59.1	71	8	BZ357971 SALK_1316
29	13	59.1	73	9	CG540274 OST132061
30	13	59.1	75	8	AZ775986 2M0009316
31	13	59.1	79	2	BE647619 NP012E12E
32	13	59.1	83	4	BI529631
33	13	59.1	83	4	BI529632
34	13	59.1	86	2	BF506962 11024100D0
35	13	59.1	89	4	BM008683 603618359
36	13	59.1	91	9	CG721039 111906580
37	13	59.1	96	5	BUB27427 K002P10P
38	13	59.1	96	9	CL213942 M017A02 G
39	12.8	58.2	51	5	BQ587598 E012343-0
40	12.8	58.2	79	9	AL941969 Arabidops
41	12.8	58.2	84	8	BZ385251 SALK_1367
42	12.8	58.2	88	8	AZ783178 2M0054H07
43	12.8	58.2	94	1	AV964561 AV964561
44	12.8	58.2	98	9	CL422811 AE0843 Sa
45	12.8	58.2	100	6	CB040559 4003522 B
46	12.6	57.3	29	8	AZ760190 IM0553P09
47	12.6	57.3	30	9	CC792872 SALK_0028
48	12.6	57.3	57	8	AZ921432 1006030A0
49	12.6	57.3	65	9	BX348011 Arabidops
50	12.6	57.3	69	8	BH807809 1008073F0
51	12.6	57.3	80	5	BQ479135 ku26e03.y
52	12.6	57.3	82	6	CA390926 cs116b11.
53	12.6	57.3	82	9	AL767483 Arabidops
54	12.6	57.3	83	6	CD743377 IRB15 D10
55	12.6	57.3	83	6	AZ590182 1M0395D09
56	12.6	57.3	90	5	BQ818580 1030071G1
57	12.6	57.3	91	8	BZ292587 SALK_1247
58	12.6	57.3	91	9	CG502528 OST47702
59	12.6	57.3	92	6	CA906765 PCS06880
60	12.6	57.3	96	9	CG600172 OST26895
61	12.6	57.3	98	1	AU794321 AU794321
62	12.6	57.3	98	6	CD344038 EctEstee91
63	12.6	57.3	99	9	CG500185 OST42937
64	12.4	56.4	51	1	AV963027 AV963027
65	12.4	56.4	51	9	AG199950 Pan trogl
66	12.4	56.4	56	9	CR494110 Medicago
67	12.4	56.4	59	8	BH908170 SALK_0461
68	12.4	56.4	61	9	AA761865 n264D03.s
69	12.4	56.4	61	9	CR004873 Forward s
70	12.4	56.4	63	2	BF633413 NF05512D
71	12.4	56.4	65	8	AZ975641 2M0250116
72	12.4	56.4	67	8	BH911627 SALK_0698
73	12.4	56.4	67	9	BX658282 Arabidops
74	12.4	56.4	69	5	BQ589990 E012842-0
75	12.4	56.4	72	9	CC577569 CH240 456
76	12.4	56.4	73	8	BH756914 SALK_0548
77	12.4	56.4	76	7	CK581425 IST_W15_3
78	12.4	56.4	78	4	BM127674 iest8d01.y
79	12.4	56.4	79	1	BI175653 OSTR051F3
80	12.4	56.4	80	5	AV961008 AV961008
81	12.4	56.4	81	9	BP068762 BP068762
82	12.4	56.4	82	1	AA406148 2U20C11.8
83	12.4	56.4	82	8	AZ767894 Pan trogl
84	12.4	56.4	82	9	AG198560 Pan trogl
85	12.4	56.4	85	1	AA689791 VAS07H08.r
86	12.4	56.4	85	7	CK110880 P043G11 P
87	12.4	56.4	85	9	CR308814 Medicago
88	12.4	56.4	85	9	CG548982 OST151485
89	12.4	56.4	86	1	AI953694 wq47C06.X
90	12.4	56.4	88	1	AZ283191 AA3A-P7F1
91	12.4	56.4	88	8	AZ586476 OST392J24
92	12.4	56.4	90	9	CG546017 OST144930
93	12.4	56.4	90	9	AG195135 Pan trogl
94	12.4	56.4	91	9	CG554726 OST168626
95	12.4	56.4	92	6	CD962328 SDN_291 G
96	12.4	56.4	92	7	CNS62180 tag64f04.
97	12.4	56.4			

98	12.4	56.4	95	8	BH907331	BH907331	SAUK_0394	C 171	12	54.5	75	5	BH991605	BH991605	P053A02.P
99	12.4	56.4	96	1	AA396017	AA396017	VB42608..r	C 172	12	54.5	75	6	CA996552	CA996552	rg42d12.Y
C 100	12.4	56.4	96	7	CK227892	CK227892	700306245	C 173	12	54.5	76	7	H57254	H57254	Yr10f03..r1
C 101	12.4	56.4	97	8	CG631426	CG631426	OST347804	C 174	12	54.5	77	1	AA682141	AA682141	vul13c08..r
C 102	12.4	56.4	98	8	BH810730	BH810730	SAUK_0511	C 175	12	54.5	78	1	FR0016571	FR0016571	F..rubbripe
C 103	12.4	56.4	98	9	CG406654	CG406654	OST254314	C 176	12	54.5	80	2	BE329424	BE329424	hg37b06..x
C 104	12.4	56.4	99	9	CG496629	CG496629	OST36752	C 177	12	54.5	80	3	CG546823	CG546823	OST146845
C 105	12.2	55.5	26	8	AZ352012	AZ352012	IM0090M13	C 178	12	54.5	81	7	CO514377	CO514377	813d8G84G
C 106	12.2	55.5	28	8	AZ776616	AZ776616	IM0010K24	C 179	12	54.5	81	8	BH223168	BH223168	1006111E0
C 107	12.2	55.5	32	8	AZ320254	AZ320254	IM0040P07	C 180	12	54.5	81	8	CR166391	CR166391	Forward.s
C 108	12.2	55.5	34	4	BJ055330	BJ055330	BA055330	C 181	12	54.5	83	5	BZ385297	BZ385297	SAUK_1370
C 109	12.2	55.5	36	4	EX893140	EX893140	Arabidops	C 182	12	54.5	84	5	BO541820	BO541820	ps89d11.Y
C 110	12.2	55.5	47	9	BX893160	BX893160	Arabidops	C 183	12	54.5	84	7	CN924401	CN924401	000414ARL
C 111	12.2	55.5	48	7	R59822	R59822	Yh11d05..r1	C 184	12	54.5	84	7	CG949439	CG949439	OST34090
C 112	12.2	55.5	51	7	CN870791	CN870791	001205AAO	C 185	12	54.5	85	8	CG052843	CG052843	SAUK_-0386
C 113	12.2	55.5	55	1	AV859961	AV859961	Arabidops	C 186	12	54.5	85	9	BX947374	BX947374	Arabidops
C 114	12.2	55.5	55	1	BX530741	BX530741	Arabidops	C 187	12	54.5	85	9	CG483662	CG483662	OST17376
C 115	12.2	55.5	67	6	CD946435	CD946435	REN_47.Gc	C 188	12	54.5	86	8	BH907868	BH907868	SAUK_0445
C 116	12.2	55.5	68	9	CG627325	CG627325	OST337112	C 189	12	54.5	88	1	AA672676	AA672676	vp01c04..r
C 117	12.2	55.5	70	7	CF861233	CF861233	ps200051H	C 190	12	54.5	88	1	AA072782	AA072782	mm76c01..r
C 118	12.2	55.5	76	9	CG712791	CG712791	111902980	C 191	12	54.5	89	8	BH418221	BH418221	99-140-GR
C 119	12.2	55.5	77	6	CF317632	CF317632	HD--07-G1	C 192	12	54.5	89	9	AG582786	AG582786	Mus_muscu
C 120	12.2	55.5	78	8	BH848378	BH848378	SAUK_0680	C 193	12	54.5	89	9	BX659592	BX659592	Arabidops
C 121	12.2	55.5	82	6	CD940906	CD940906	RAU_38.Gc	C 194	12	54.5	90	5	BX715563	BX715563	Arabidops
C 122	12.2	55.5	84	6	CG526397	CG526397	OST102946	C 195	12	54.5	90	5	CG487159	CG487159	OST22579
C 123	12.2	55.5	85	9	AG208293	AG208293	Oryza_sat	C 196	12	54.5	91	9	CG662549	CG662549	OST446522
C 124	12.2	55.5	88	6	CA513711	CA513711	zm2-7.Por	C 197	12	54.5	92	8	AZ345533	AZ345533	IM0080003
C 125	12.2	55.5	88	6	CB225706	CB225706	IRT19H07	C 198	12	54.5	92	8	BZ762891	BZ762891	SAUK_1096
C 126	12.2	55.5	89	6	CD863924	CD863924	AZO1_1081	C 199	12	54.5	93	9	CG631043	CG631043	OST345654
C 127	12.2	55.5	92	1	AA424991	AA424991	zm03h11..r	C 200	12	54.5	93	9	CG802963	CG802963	1118036E1
C 128	12.2	55.5	92	1	AA509238	AA509238	MBAPFCXBH1	C 201	12	54.5	94	1	AA172709	AA172709	z982d02..b
C 129	12.2	55.5	92	6	CB968001	CB968001	egx28B05-	C 202	12	54.5	94	7	CN866016	CN866016	000907AAL
C 130	12.2	55.5	94	6	CD391897	CD391897	Gm_CK1088	C 203	12	54.5	94	9	CG620682	CG620682	OST318065
C 131	12.2	55.5	95	6	CA584738	CA584738	LBD01242..	C 204	12	54.5	94	9	CG802942	CG802942	1118036E1
C 132	12.2	55.5	96	8	AZ402172	AZ402172	SAUK_1491	C 205	12	54.5	96	9	CG514478	CG514478	OST68292
C 133	12.2	55.5	98	9	CC886853	CC886853	SDF_96.Gc	C 206	12	54.5	98	1	AA738995	AA738995	AV968412..r
C 134	12.2	55.5	99	6	CD960852	CD960852	SAUK_1491	C 207	12	54.5	99	1	AV962643	AV962643	ASV26A06..
C 135	12.2	55.5	100	6	CB403118	CB403118	OSTR002A3	C 208	12	54.5	99	9	CL528662	CL528662	q435D02..x
C 136	12.2	55.5	29	9	CG712938	CG712938	1119029G0	C 209	11.8	53.6	49	1	AI186519	AI186519	ec11B08..Y
C 137	12	54.5	48	8	BZ596907	BZ596907	SAUK_0969	C 210	11.8	53.6	49	1	AI900473	AI900473	ec11B08..Y
C 138	12	54.5	49	1	AI257734	AI257734	ap62507..x	C 211	11.8	53.6	54	7	D35387	D35387	CEIK001G9F
C 139	12	54.5	50	1	AU107883	AU107883	AL496230.T..bruce1	C 212	11.8	53.6	56	5	BU064078	BU064078	Pgr_3..P09
C 140	12	54.5	50	9	TA346C05Q	TA346C05Q	CC021609	C 213	11.8	53.6	58	9	AG200360	AG200360	Pan_trog1
C 141	12	54.5	51	8	CC021609	CC021609	3591_1_25	C 214	11.8	53.6	59	7	CF858931	CF858931	ps2G004XC
C 142	12	54.5	53	9	CG802728	CG802728	1118033D1	C 215	11.8	53.6	59	9	BX963525	BX963525	Reverse.s
C 143	12	54.5	56	8	AZ492525	AZ492525	IM0326M09	C 216	11.8	53.6	60	9	TA90G02P	TA90G02P	SAUK_1096
C 144	12	54.5	58	9	AJ594869	AJ594869	Arabidops	C 217	11.8	53.6	64	2	AM626424	AM626424	SMOVARFCAP
C 145	12	54.5	58	1	AA106075	AA106075	m187e04..r	C 218	11.8	53.6	65	6	CB365462	CB365462	ZR001-P00
C 146	12	54.5	59	9	CG802843	CG802843	1118035C0	C 219	11.8	53.6	71	8	AZ658672	AZ658672	IM0535005
C 147	12	54.5	60	8	BZ378400	BZ378400	SAUK_1080	C 220	11.8	53.6	73	6	CD813960	CD813960	BN15..021K
C 148	12	54.5	62	6	CD965249	CD965249	SEJ_127.G	C 221	11.8	53.6	73	9	CG543110	CG543110	OST138478
C 149	12	54.5	62	9	CG802735	CG802735	1118033E0	C 222	11.8	53.6	74	7	H45375	H45375	ym39907..r1
C 150	12	54.5	64	4	BG514647	BG514647	dad63B05..	C 223	11.8	53.6	74	7	R82107	R82107	14B1.Chromo
C 151	12	54.5	64	9	BX226786	BX226786	Danio_rex	C 224	11.8	53.6	77	4	BU049901	BU049901	BU049901
C 152	12	54.5	65	9	CG803623	CG803623	1118044C1	C 225	11.8	53.6	80	9	CL639543	CL639543	Q011A08.G
C 153	12	54.5	66	5	BP068496	BP068496	BP068496	C 226	11.8	53.6	81	9	BX288780	BX288780	Arabidops
C 154	12	54.5	66	9	AJ598935	AJ598935	Arabidops	C 227	11.8	53.6	82	7	CN928678	CN928678	000601AEP
C 155	12	54.5	66	9	TA111H12Q	TA111H12Q	bruce1	C 228	11.8	53.6	85	1	AA869007	AA869007	ak52d07..s
C 156	12	54.5	67	8	BZ660914	BZ660914	SAUK_0243	C 229	11.8	53.6	86	1	AA241426	AA241426	MB12S19F3
C 157	12	54.5	67	9	CG481963	CG481963	OST14692	C 230	11.8	53.6	86	1	BU837889	BU837889	1106G11.P
C 158	12	54.5	68	5	BO133015	BO133015	f236fE08..Y	C 231	11.8	53.6	86	8	BH848629	BH848629	SAUK_-0686
C 159	12	54.5	68	8	BO133274	BO133274	f239e09..Y	C 232	11.8	53.6	87	6	BO181950	BO181950	Danio_rex
C 160	12	54.5	68	9	CNS03NGG	AL25457	Tetradon	C 233	11.8	53.6	87	6	CO1954	CO1954	HDMGSD00396
C 161	12	54.5	69	8	BZ380057	BZ380057	SAUK_1145	C 234	11.8	53.6	88	7	CO756147	CO756147	MdfrC3045
C 162	12	54.5	70	5	BQ092063	BQ092063	f236fE08..x	C 235	11.8	53.6	91	1	AL651593	AL651593	AL651593
C 163	12	54.5	70	5	BQ092271	BQ092271	f239e09..x	C 236	11.8	53.6	91	8	BH862085	BH862085	SAUK_-0887
C 164	12	54.5	71	7	CG552451	CG552451	OST161696	C 237	11.8	53.6	93	9	CG646628	CG646628	OST393237
C 165	12	54.5	71	7	CN866702	CN866702	010202AAM	C 238	11.6	52.7	26	8	AO254614	AO254614	EP(3)0707
C 166	12	54.5	71	9	D86873	D86873	Human_exon	C 239	11.6	52.7	32	8	AZ936721	AZ936721	2M0193K03
C 167	12	54.5	72	1	AA165723	AA165723	ms60b010..r	C 240	11.6	52.7	39	7	H46101	H46101	yo17d02..r1
C 168	12	54.5	72	1	CG712971	CG712971	1119029H0	C 241	11.6	52.7	42	9	TA119G10P	TA119G10P	T..bruce1
C 169	12	54.5	73	1	AA531660	AA531660	TGBSTz229	C 242	11.6	52.7	49	9	BX651841	BX651841	Arabidops
C 170	12	54.5	74	9	CG539084	CG539084	OST129692	C 243	11.6	52.7	45	9			

C 244	11.6	52.7	46	6	CE304811	ABP1--06-	317	11.6	52.7	88	9	CG536371	CG563171	OST124248	
C 245	11.6	52.7	49	7	CK377964	1Ah89f06.	318	11.6	52.7	89	1	AI944909	AI944909	bse06f05.y	
C 246	11.6	52.7	52	1	AA865120	od51f01.s	319	11.6	52.7	89	1	AA200552	AA200552	mm34603.f	
C 247	11.6	52.7	52	1	AI582154	tg63a03.x	320	11.6	52.7	89	4	Bj031801	Bj031801		
C 248	11.6	52.7	52.7	52	1	AA191702	zp81h05.f	321	11.6	52.7	89	7	CF806961	CF806961	PEB8018XA
C 249	11.6	52.7	56	9	AL767684	ArabiDops	322	11.6	52.7	89	8	BH850537	SALK_0714	BH850537	
C 250	11.6	52.7	56	9	CL517457	SAC7FP04.F	323	11.6	52.7	92	9	CL256594	XP0036.Sa	CL256594	
C 251	11.6	52.7	57	4	BG368881	602454676	324	11.6	52.7	93	5	BQ457961	ph85809.y	BQ457961	
C 252	11.6	52.7	58	9	BX225834	Dan10.rer	325	11.6	52.7	93	8	AZ348428	IM0085A04	AZ348428	
C 253	11.6	52.7	60	2	BE059621	en34fE07.y	326	11.6	52.7	94	1	AA796568	VP14h12.t	AA796568	
C 254	11.6	52.7	62	8	BH906981	re3	327	11.6	52.7	94	4	BG818354	602780258	BG818354	
C 255	11.6	52.7	62	8	BZ359026	SALK_1316	328	11.6	52.7	95	1	AI327738	10c09a1.f	AI327738	
C 256	11.6	52.7	62	9	CL256488	AE0298.Sa	329	11.6	52.7	95	4	BI170569	rag12f10.	BI170569	
C 257	11.6	52.7	63	9	CG627573	OST337884	330	11.6	52.7	95	8	AZ648429	IM0517N19	AZ648429	
C 258	11.6	52.7	64	1	AU076645	AU076645	331	11.6	52.7	95	9	CG529416	OST109811	CG529416	
C 259	11.6	52.7	66	2	BF645211	NE034E01E	332	11.6	52.7	96	9	CG509445	OST60590	CG509445	
C 260	11.6	52.7	67	1	AL668668	AL668668	333	11.6	52.7	96	9	CG514601	OST68464	CG514601	
C 261	11.6	52.7	67	8	AZ331562	IM0059M03	334	11.6	52.7	96	9	CG586584	OST235308	CG586584	
C 262	11.6	52.7	67	8	CL791727	RM2363.Ba	335	11.6	52.7	96	9	CG660312	OST439738	CG660312	
C 263	11.6	52.7	68	8	CC177925	XST020.Ba	336	11.6	52.7	97	1	AA207690	mv79PD04.f	AA207690	
C 264	11.6	52.7	68	9	CG521445	OST89590	337	11.6	52.7	97	8	AZ922698	SILCO3C07	AZ922698	
C 265	11.6	52.7	69	1	AA731472	nz98fE09.s	338	11.6	52.7	98	1	AA510729	vH60e07.f	AA510729	
C 266	11.6	52.7	69	5	BQ087739	re08c08.y	339	11.6	52.7	98	2	AM099021	sd33b09.y	AM099021	
C 267	11.6	52.7	69	6	CD940612	RAP_32.Ge	340	11.6	52.7	98	2	BE957790	601653917	BE957790	
C 268	11.6	52.7	69	7	F30220	HSPD20568.H	341	11.6	52.7	98	9	CG627193	OST336631	CG627193	
C 269	11.6	52.7	70	1	AI877088	vz73G03.x	342	11.6	52.7	99	9	HS8A275865	Hom0.sapl	HS8A275865	
C 270	11.6	52.7	70	9	CG574624	OST207666	343	11.6	52.7	99	9	CL519041	SAG3E09.F	CL519041	
C 271	11.6	52.7	71	7	D25830	HUMGS04200	344	11.6	52.7	99	9	AG237560	Lotus.cor	AG237560	
C 272	11.6	52.7	72	5	BQ087737	re08c06.y	345	11.6	52.7	100	1	AV775376	AV775376	AV775376	
C 273	11.6	52.7	72	5	BQ087781	re08g07.y	346	11.6	52.7	100	1	AA546444	XK02f09.f	AA546444	
C 274	11.6	52.7	72	8	R86940	YQ31d07.s1	347	11.6	52.7	100	5	BP752024	BP752024	BP752024	
C 275	11.6	52.7	72	8	AZ758556	IM0550B11	348	11.6	52.7	100	8	BZ425248	100027968	BZ425248	
C 276	11.6	52.7	73	1	CG892478	0282019-0	349	11.6	52.7	100	8	BZ689993	M008E02.G	BZ689993	
C 277	11.6	52.7	73	1	AA497061	aa42d03.s	350	11.6	52.7	100	9	HSMC06E08	H.sapiens.D	HSMC06E08	
C 278	11.6	52.7	73	4	BM121542	AD01h3.cd	351	11.6	52.7	100	9	CG647263	OST395377	CG647263	
C 279	11.6	52.7	73	9	CL211288	M050E07.G	352	11.4	51.8	12	8	AZ663083	IM0542H02	AZ663083	
C 280	11.6	52.7	74	1	AV913881	AV913881	353	11.4	51.8	42	6	CA968184	CLX07a26	CA968184	
C 281	11.6	52.7	74	8	AZ958386	2M0225109	354	11.4	51.8	47	7	T27200	MTO-143.Hum	T27200	
C 282	11.6	52.7	75	2	AM667572	GA_Re000	355	11.4	51.8	48	4	BG166886	602345073	BG166886	
C 283	11.6	52.7	75	9	BX132834	Dan10.rer	356	11.4	51.8	48	4	BG166886	602345073	BG166886	
C 284	11.6	52.7	75	9	CG561496	OST183088	357	11.4	51.8	48	4	BQ835838	rf58605.y	BQ835838	
C 285	11.6	52.7	76	1	AU076462	AU076462	358	11.4	51.8	52	2	BE057512	gn03b07.y	BE057512	
C 286	11.6	52.7	76	1	BX534550	ArabiDops	359	11.4	51.8	52	2	BE318017	NE061E07L	BE318017	
C 287	11.6	52.7	78	1	AL933353	AL933353	360	11.4	51.8	54	1	AV965237	AV965237	AV965237	
C 288	11.6	52.7	78	9	CG526586	OST103330	361	11.4	51.8	55	1	AI684207	lw96G03.x	AI684207	
C 289	11.6	52.7	79	7	CN937024	000305AVB	362	11.4	51.8	55	1	AI732347	fc34fE01.x	AI732347	
C 290	11.6	52.7	79	7	CR560685	CR560685	363	11.4	51.8	55	7	RS2962	yg85b12.x1	RS2962	
C 291	11.6	52.7	79	9	T86199	yd78g09.x1	364	11.4	51.8	55	9	CR111119	Forward.s	CR111119	
C 292	11.6	52.7	79	9	AL768256	ArabiDops	365	11.4	51.8	56	4	BI826636	603077090	BI826636	
C 293	11.6	52.7	80	9	CG517928	OST78888	366	11.4	51.8	58	1	AI537285	lp07b10.x	AI537285	
C 294	11.6	52.7	80	9	CL256513	AE0764.Sa	367	11.4	51.8	58	1	AI662714	va88c01.x	AI662714	
C 295	11.6	52.7	81	9	AL943185	ArabiDops	368	11.4	51.8	58	8	BH908898	SALK_0511	BH908898	
C 296	11.6	52.7	82	1	AV950678	AV950678	369	11.4	51.8	60	7	BI50536	603135461	BI50536	
C 297	11.6	52.7	82	4	BG522550	22-72.Ste	370	11.4	51.8	60	7	T74753	yc59a12.s1	T74753	
C 298	11.6	52.7	82	7	CN931534	000427APB	371	11.4	51.8	61	1	AA732060	n287d11.s	AA732060	
C 299	11.6	52.7	83	6	CA748367	NS_EST_33	372	11.4	51.8	61	1	AV768562	w140a01.f	AV768562	
C 300	11.6	52.7	83	6	CD963460	SDU_45-Ge	373	11.4	51.8	61	1	AX289007	ArabiDops	AX289007	
C 301	11.6	52.7	83	6	CD963460	SDU_45-Ge	374	11.4	51.8	61	9	BX289007	ArabiDops	BX289007	
C 302	11.6	52.7	83	9	AL938099	ArabiDops	375	11.4	51.8	63	5	BQ592229	E012698-0	BQ592229	
C 303	11.6	52.7	84	6	CF047193	QCK5e05.y	376	11.4	51.8	63	9	AL769234	ArabiDops	AL769234	
C 304	11.6	52.7	84	7	CN588141	TTE000054	377	11.4	51.8	64	9	BH813786	SALK_0652	BH813786	
C 305	11.6	52.7	84	8	AO034108	1(2)06655	378	11.4	51.8	65	1	CG514817	OST68769	CG514817	
C 306	11.6	52.7	85	1	AI957376	n186G09.x	379	11.4	51.8	65	1	AU014109	AU014109	AU014109	
C 307	11.6	52.7	85	1	AA462449	vg67fE09.f	380	11.4	51.8	66	6	CD409948	GM_ck3721	CD409948	
C 308	11.6	52.7	85	2	BE917347	601666249	381	11.4	51.8	66	7	CN565472	lag26e12.	CN565472	
C 309	11.6	52.7	85	9	CR012610	Forward.s	382	11.4	51.8	66	8	AZ968687	2M0241E12	AZ968687	
C 310	11.6	52.7	85	9	CG617097	OST310183	383	11.4	51.8	68	5	BK627201	BK627201	BK627201	
C 311	11.6	52.7	85	9	CL315441	RRV465.Ba	384	11.4	51.8	68	6	CD944096	RD0_16.Ge	CD944096	
C 312	11.6	52.7	86	1	AA255719	z821a08.f	385	11.4	51.8	69	1	AI302331	g017h03.x	AI302331	
C 313	11.6	52.7	88	1	AA255719	z821a08.f	386	11.4	51.8	70	9	CL610271	E110126-5	CL610271	
C 314	11.6	52.7	88	5	B0873370	Q054F02.F	387	11.4	51.8	71	9	CR204965	Forward.s	CR204965	
C 315	11.6	52.7	88	6	C00366	HUMGS00362	388	11.4	51.8	71	9	C0511957	bl3d6G07B	C0511957	
C 316	11.6	52.7	88	7	CK428438	1aj26b05.	389	11.4	51.8	72	7				

C 390	11.4	51.8	73	8	AZ959023	AZ959023	2M0226U01	463	11.4	51.8	97	8	BH902095	BH902095	SALK_0912
C 391	11.4	51.8	74	1	AA795133	AA795133	vg94a03..r	C 464	11.4	51.8	98	1	AJ691874	AJ691874	AJ691874
C 392	11.4	51.8	74	6	CD944632	CD944632	RDL_75_Ge	C 465	11.4	51.8	98	6	CD923909	CD923909	G750_110L
C 393	11.4	51.8	74	6	CD945661	CD945661	RRC_27_Ge	C 466	11.4	51.8	98	7	CR581047	CR581047	CR581047
C 394	11.4	51.8	74	6	CD9667837	CD9667837	SRY_29_Ge	C 467	11.4	51.8	98	9	FR0040079	FR0040079	FR0040079
C 395	11.4	51.8	74	8	B41521	B41521	HS-1053-B2-	C 468	11.4	51.8	99	9	BK239727	BK239727	Danio rer
C 396	11.4	51.8	75	5	B0874547	B0874547	Q069C06_P	C 469	11.4	51.8	99	9	CG526845	CG526845	CG526845
C 397	11.4	51.8	75	8	BH755674	BH755674	SALK_0520	C 470	11.4	51.8	100	1	AA795142	AA795142	AA795142
C 398	11.4	51.8	75	6	DMES45383	AJ545383	Drosophila	C 471	11.4	51.8	100	2	BF174261	BF174261	MYE2854_M
C 399	11.4	51.8	76	6	CB003846	CB003846	VYB033H06	C 472	11.4	51.8	100	4	BJ018457	BJ018457	BJ018457
C 400	11.4	51.8	77	7	BG408703	BG408703	0772a09..Y	C 473	11.4	51.8	100	4	BJ803031	BJ803031	BH903706
C 401	11.4	51.8	77	7	CN866695	CN866695	U02022AAM	C 474	11.4	51.8	100	6	CB298760	CB298760	220022_re
C 402	11.4	51.8	77	9	AL760117	AL760117	Arabidops	C 475	11.4	51.8	100	9	BK945484	BK945484	Arabidops
C 403	11.4	51.8	79	8	BH808607	BH808607	1008081E0	C 476	11.2	50.9	29	8	BZ291176	BZ291176	SALK_1125
C 404	11.4	51.8	80	7	R26902	R26902	yh46C04..s1	C 477	11.2	50.9	31	8	BH848251	BH848251	SALK_0677
C 405	11.4	51.8	80	9	CL303535	CL303535	M040E05_G	C 478	11.2	50.9	32	8	BH903706	BH903706	SALK_1031
C 406	11.4	51.8	81	6	CD743804	CD743804	IRB10_D06	C 479	11.2	50.9	32	8	BH903706	BH903706	SALK_1031
C 407	11.4	51.8	81	8	AZ776816	AZ776816	2M0010J14	C 480	11.2	50.9	32	8	BH903709	BH903709	SALK_1031
C 408	11.4	51.8	81	9	CG501841	CG501841	OST45990	C 481	11.2	50.9	32	9	BK950069	BK950069	Arabidops
C 409	11.4	51.8	82	7	D20995	D20995	HUMGS01977	C 482	11.2	50.9	36	8	BH856945	BH856945	SALK_0775
C 410	11.4	51.8	83	4	BG362089	BG362089	GB51A03..Y	C 483	11.2	50.9	36	8	BH856991	BH856991	SALK_0774
C 411	11.4	51.8	83	9	CG477650	CG477650	OST7628_M	C 484	11.2	50.9	37	8	AZ448651	AZ448651	1M0246P20
C 412	11.4	51.8	83	9	CG526194	CG526194	OST102577	C 485	11.2	50.9	37	8	BZ767897	BZ767897	SALK_1395
C 413	11.4	51.8	84	4	BI8477040	BI8477040	f556e07..x	C 486	11.2	50.9	38	8	BZ768886	BZ768886	SALK_1411
C 414	11.4	51.8	84	6	CB815309	CB815309	NI61V-C11	C 487	11.2	50.9	40	8	BH854019	BH854019	SALK_0786
C 415	11.4	51.8	84	7	CN866451	CN866451	001010AAM	C 488	11.2	50.9	41	9	AJ593289	AJ593289	Arabidops
C 416	11.4	51.8	84	9	BX661956	BX661956	Arabidops	C 489	11.2	50.9	42	9	TA242A07Q	TA242A07Q	pruce1
C 417	11.4	51.8	84	9	CG485164	CG485164	OST19414	C 490	11.2	50.9	44	8	BZ769153	BZ769153	SALK_1416
C 418	11.4	51.8	84	9	CG662255	CG662255	OST445265	C 491	11.2	50.9	46	8	BZ535661	BZ535661	SALK_1210
C 419	11.4	51.8	85	6	CB355456	CB355456	ZF001-P00	C 492	11.2	50.9	46	8	BZ253562	BZ253562	SALK_1210
C 420	11.4	51.8	86	4	BG237303	BG237303	8aB05H04..	C 493	11.2	50.9	47	8	BH855469	BH855469	SALK_0857
C 421	11.4	51.8	86	9	CL210772	CL210772	M013C01_G	C 494	11.2	50.9	49	1	AJ139346	AJ139346	t154F05..x
C 422	11.4	51.8	87	2	BE058847	BE058847	8n21E12..Y	C 495	11.2	50.9	50	1	AJ102956	AJ102956	Arabidops
C 423	11.4	51.8	87	2	CC516849	CC516849	CH240_362	C 496	11.2	50.9	50	1	AU106263	AU106263	Arabidops
C 424	11.4	51.8	88	1	AA192727	AA192727	zG12d02..r	C 497	11.2	50.9	50	1	AV521339	AV521339	Arabidops
C 425	11.4	51.8	88	1	AA616098	AA616098	vc96a01..r	C 498	11.2	50.9	51	1	BI817679	BI817679	G2-P1_Axo
C 426	11.4	51.8	88	5	BP032240	BP032240	BP032240	C 499	11.2	50.9	52	2	AM692215	AM692215	NF048H04S
C 427	11.4	51.8	88	7	T99680	T99680	ye67d08..r1	C 500	11.2	50.9	52	8	AZ788258	AZ788258	2M0035B14
C 428	11.4	51.8	88	9	CG561981	CG561981	OST184008	C 501	11.2	50.9	52	8	BZ379285	BZ379285	SALK_1131
C 429	11.4	51.8	89	1	AI361915	AI361915	GY37b02..x	C 502	11.2	50.9	52	8	CN50439R	CN50439R	Tetradodon
C 430	11.4	51.8	89	1	AU012659	AU012659	Arabidops	C 503	11.2	50.9	54	6	CB382123	CB382123	TG85Tzyh3
C 431	11.4	51.8	89	9	BX650428	BX650428	Arabidops	C 504	11.2	50.9	54	6	BH642310	BH642310	1008031D0
C 432	11.4	51.8	89	9	CR400439	CR400439	Arabidops	C 505	11.2	50.9	56	8	BZ287928	BZ287928	SALK_0213
C 433	11.4	51.8	89	9	CG521738	CG521738	OST90305	C 506	11.2	50.9	58	1	AA769799	AA769799	ah71d02..8
C 434	11.4	51.8	89	9	CG580362	CG580362	OST219686	C 507	11.2	50.9	58	1	CA382241	CA382241	TG85Tzyh4
C 435	11.4	51.8	90	1	AA248842	AA248842	18874..seq	C 508	11.2	50.9	58	6	CG458091	CG458091	SALK_1158
C 436	11.4	51.8	90	2	BF592980	BF592980	7197g08..x	C 509	11.2	50.9	59	6	CA584854	CA584854	LB013373.
C 437	11.4	51.8	90	7	NS0460	NS0460	yy88a07..r1	C 510	11.2	50.9	60	6	CA586624	CA586624	LB02280.
C 438	11.4	51.8	90	9	CR257129	CR257129	Forward_s	C 511	11.2	50.9	60	6	CD533476	CD533476	32A1_Ara
C 439	11.4	51.8	90	9	CG696137	CG696137	BARC_BFGL	C 512	11.2	50.9	60	9	AJ600904	AJ600904	Arabidops
C 440	11.4	51.8	90	9	CL002340	CL002340	02S0105-0	C 513	11.2	50.9	62	6	CR396148	CR396148	Arabidops
C 441	11.4	51.8	91	1	AI966049	AI966049	sgc26b02..Y	C 514	11.2	50.9	61	1	AI132176	AI132176	uh71e06..r
C 442	11.4	51.8	91	1	AA531975	AA531975	TG85Tzy46	C 515	11.2	50.9	61	9	AL762205	AL762205	Arabidops
C 443	11.4	51.8	91	4	BG361580	BG361580	gB55a04..Y	C 516	11.2	50.9	61	9	AI963472	AI963472	we63g01..x
C 444	11.4	51.8	91	5	BP076876	BP076876	BP076876	C 517	11.2	50.9	62	1	BE350919	BE350919	htc6311..x
C 445	11.4	51.8	91	5	BQ813493	BQ813493	1030036H1	C 518	11.2	50.9	62	8	AZ787597	AZ787597	2M0034E07
C 446	11.4	51.8	91	5	B0891359	B0891359	P049C10_P	C 519	11.2	50.9	62	8	BH909112	BH909112	SALK_0520
C 447	11.4	51.8	92	1	AA144886	AA144886	mr1C06..r	C 520	11.2	50.9	62	9	CG869334	CG869334	AD0448_Sa
C 448	11.4	51.8	92	8	B07694	B07694	CDG93_Cri1	C 521	11.2	50.9	62	9	CB305215	CB305215	3'EST-NF1
C 449	11.4	51.8	93	7	CK109043	CK109043	KX020P56_P	C 522	11.2	50.9	64	6	CN587965	CN587965	TTE000051
C 450	11.4	51.8	93	8	BH863024	BH863024	SALK_0929	C 523	11.2	50.9	64	7	AL940948	AL940948	Arabidops
C 451	11.4	51.8	93	8	BH863025	BH863025	SALK_0930	C 524	11.2	50.9	64	9	CG729745	CG729745	1119114D1
C 452	11.4	51.8	93	8	BZ768413	BZ768413	SALK_1401	C 525	11.2	50.9	65	9	AL900350	AL900350	Reverse_s
C 453	11.4	51.8	93	9	CR183632	CR183632	Reverse_s	C 526	11.2	50.9	66	1	CR217388	CR217388	Reverse_s
C 454	11.4	51.8	94	1	AA255829	AA255829	zr84h02..8	C 527	11.2	50.9	67	1	AI098673	AI098673	uh38a03..r
C 455	11.4	51.8	94	1	AA437145	AA437145	zvi6a03..r	C 528	11.2	50.9	67	8	AZ2920059	AZ2920059	1006017H0
C 456	11.4	51.8	94	1	AA492680	AA492680	vi177c12..r	C 529	11.2	50.9	67	9	AG188234	AG188234	Pan_trog1
C 457	11.4	51.8	94	8	AZ763542	AZ763542	2M025H22	C 530	11.2	50.9	68	2	BE318109	BE318109	NF062G02L
C 458	11.4	51.8	94	9	CG506137	CG506137	OST55493	C 531	11.2	50.9	68	9	CG481901	CG481901	OST14596
C 459	11.4	51.8	95	2	AM698542	AM698542	g339_glan	C 532	11.2	50.9	69	9	CG626338	CG626338	OST334160
C 460	11.4	51.8	97	7	EM320151	EM320151	z885g01..Y	C 533	11.2	50.9	70	9	BH864621	BH864621	SALK_0963
C 461	11.4	51.8	97	7	N82918	N82918	TG85Tzy43d0	C 534	11.2	50.9	70	9	CG546804	CG546804	OST146791
C 462	11.4	51.8	97	8	BH233922	BH233922	1006176E0	C 535	11.2	50.9	70	9			

C 536	11.2	50.9	71.6	CB382835	TG8STyH4	C 609	11.2	50.9	96.8	BH754048	BH754048	SNLK_0365
537	11.2	50.9	72.1	AA585137	ATH453 HT	610	11.2	50.9	96.8	BZ763543	BZ763543	SNLK_1190
538	11.2	50.9	72.7	T84494	y47g12..81	611	11.2	50.9	96.9	BX663336	BX663336	ArabiIdops
539	11.2	50.9	72.9	DR39C245	Danio rer	612	11.2	50.9	96.9	CR396555	CR396555	ArabiIdops
540	11.2	50.9	72.9	CG882742	01S0784-0	613	11.2	50.9	97.1	AL962641	AL962641	ArabiIdops
541	11.2	50.9	72.9	CG400413	01S0630-0	614	11.2	50.9	97.7	T89026	T89026	yc84d01..81
542	11.2	50.9	73.1	AA757896	z942908..8	615	11.2	50.9	97.8	BZ664754	BZ664754	SNLK_1100
543	11.2	50.9	73.1	AI785511	Uj43d02..x	616	11.2	50.9	97.9	AL771791	AL771791	ArabiIdops
544	11.2	50.9	73.6	CA585005	LBDO1552..	617	11.2	50.9	98.5	BX755518	BX755518	BM755518
545	11.2	50.9	73.6	CB754532	TG8STyH9	618	11.2	50.9	98.6	CF019377	CF019377	OBNI8905..
546	11.2	50.9	73.8	AZ920626	1006020G0	619	11.2	50.9	98.8	BZ661727	BZ661727	SNLK_0252
547	11.2	50.9	74.8	AZ321510	1M0042B11	620	11.2	50.9	98.8	CC057294	CC057294	SNLK_1188
548	11.2	50.9	74.8	BH791832	SNLK_0615	621	11.2	50.9	98.8	CC057296	CC057296	SNLK_1188
549	11.2	50.9	74.9	CG560674	OST181451	622	11.2	50.9	98.9	CR175365	CR175365	Forward s
550	11.2	50.9	75.4	B1532950	1024126A0	623	11.2	50.9	99.4	BM566739	BM566739	Kj05c08..y
551	11.2	50.9	75.6	CD457927	FG04d_031	624	11.2	50.9	99.6	CF051596	CF051596	OCM28d10..
552	11.2	50.9	75.6	BH786627	SNLK_0404	625	11.2	50.9	99.7	N60605	N60605	TG8STy717h1
553	11.2	50.9	75.9	CG400469	01S0630-0	626	11.2	50.9	99.7	X85640	X85640	HS46ABEST hu
554	11.2	50.9	76.1	AI900345	BC04d07..y	627	11.2	50.9	99.9	CC886668	CC886668	SNLK_1488
555	11.2	50.9	76.1	AI971293	w27f01..x	628	11.2	50.9	99.9	CG653891	CG653891	OST420100
556	11.2	50.9	76.1	AA498876	v186g12..x	629	11.2	50.9	100.2	AM798590	AM798590	RC2-UM005
557	11.2	50.9	76.2	BE027432	EESTea43	630	11.2	50.9	100.4	BG272807	BG272807	nah90G06..
558	11.2	50.9	76.5	BU838018	T108R12..P	631	11.2	50.9	100.8	BH809972	BH809972	SNLK_0368
559	11.2	50.9	76.6	CD964387	SEB_86_Ge	632	11.2	50.9	100.8	BH851873	BH851873	SNLK_0736
560	11.2	50.9	77.6	BQ824304	1030117E1	633	11.2	50.9	100.8	BH908171	BH908171	SNLK_0461
561	11.2	50.9	77.9	BX892170	ArabiIdops	634	11.2	50.9	100.9	CR130910	CR130910	Reverse s
562	11.2	50.9	78.6	CD743805	IRB10_H10	635	11.2	50.9	100.9	AZ651343	AZ651343	1M0522D06
563	11.2	50.9	78.9	BX572116	ArabiIdops	636	11.2	50.9	100.9	AV957181	AV957181	AV957181
564	11.2	50.9	79.1	AA902533	01S8d05..8	637	11.2	50.9	100.9	AT032495	AT032495	OW97406..8
565	11.2	50.9	79.7	R73530	yJ95d10..x1	638	11.2	50.9	100.9	AZ469830	AZ469830	1M0283M03
566	11.2	50.9	80.6	CD384499	PTM009672	639	11.2	50.9	100.9	AZ469830	AZ469830	2M0116F18
567	11.2	50.9	80.8	AZ320911	1M0041B16	640	11.2	50.9	100.9	AA416444	AA416444	vd11c01..8
568	11.2	50.9	80.9	BX652009	ArabiIdops	641	11.2	50.9	100.9	AZ953988	AZ953988	2M0219B01
569	11.2	50.9	80.9	CG623274	OST324683	642	11.2	50.9	100.9	CL844507	CL844507	EY12526-5
570	11.2	50.9	81.1	AV952139	AV952139	643	11.2	50.9	100.9	BZ354154	BZ354154	SNLK_1232
571	11.2	50.9	81.2	BE027387	EESTea43	644	11.2	50.9	100.9	DM546181	DM546181	Droceph11
572	11.2	50.9	81.6	CD743804	IRB10_D06	645	11.2	50.9	100.9	AZ769935	AZ769935	1M0571P04
573	11.2	50.9	81.8	AQ025818	1(2)K0712	646	11.2	50.9	100.9	AZ822081	AZ822081	2M0095F04
574	11.2	50.9	81.9	CG894851	0384734-0	647	11.2	50.9	100.9	BH888885	BH888885	3526_1_30
575	11.2	50.9	81.9	AG249996	Lotus cor	648	11.2	50.9	100.9	AA507032	AA507032	n102G12..8
576	11.2	50.9	82.2	AM333760	S25G3_AGS	649	11.2	50.9	100.9	CR411873	CR411873	CR411873
577	11.2	50.9	84.8	BH846669	SNLK_0096	650	11.2	50.9	100.9	AG222895	AG222895	Lotus cor
578	11.2	50.9	84.8	BH853723	SNLK_0781	651	11.2	50.9	100.9	BF507260	BF507260	6916P-10
579	11.2	50.9	84.8	BH855550	SNLK_0849	652	11.2	50.9	100.9	AZ617117	AZ617117	1M0448C17
580	11.2	50.9	84.9	AL767546	ArabiIdops	653	11.2	50.9	100.9	AJ239864	AJ239864	ArabiIdops
581	11.2	50.9	85.4	BG108925	HRRB1881	654	11.2	50.9	100.9	AZ324187	AZ324187	1M0046G06
582	11.2	50.9	85.8	AQ025726	SNLK_1367	655	11.2	50.9	100.9	AZ799288	AZ799288	2M0056J05
583	11.2	50.9	85.9	CNS0352X	TeIradon	656	11.2	50.9	100.9	BZ664012	BZ664012	SNLK_0276
584	11.2	50.9	86.5	BX254003	BX254003	657	11.2	50.9	100.9	AJ589292	AJ589292	ArabiIdops
585	11.2	50.9	86.7	CNS88164	TTE000015	658	11.2	50.9	100.9	AA655316	AA655316	vg85E09..8
586	11.2	50.9	86.7	CNS88166	TTE000017	659	11.2	50.9	100.9	B1092888	B1092888	602857915
587	11.2	50.9	86.8	BZ385252	SNLK_1367	660	11.2	50.9	100.9	TA385F12Q	TA385F12Q	T..bruce1
588	11.2	50.9	86.8	CG634696	OST356007	661	11.2	50.9	100.9	BM988495	BM988495	Danio rer
589	11.2	50.9	87.5	BP075529	BP075529	662	11.2	50.9	100.9	BX240449	BX240449	Danio rer
590	11.2	50.9	87.6	CD961672	SDK_218 G	663	11.2	50.9	100.9	CR143035	CR143035	Forward s
591	11.2	50.9	87.7	CF773207	AG_FSL_14	664	11.2	50.9	100.9	AA219663	AA219663	zr05F04..8
592	11.2	50.9	87.7	CK937659	ha65017xh	665	11.2	50.9	100.9	AZ346578	AZ346578	1M0081B32
593	11.2	50.9	88.9	CB815004	1611T-F7	666	11.2	50.9	100.9	DM545946	DM545946	Droceph11
594	11.2	50.9	89.6	BU038226	FucuesST2	667	11.2	50.9	100.9	B1845613	B1845613	ts892f08..x
595	11.2	50.9	91.8	BH905696	SNLK_1076	668	11.2	50.9	100.9	AX288211	AX288211	ArabiIdops
596	11.2	50.9	92.6	CB378094	rg07D05..y	669	11.2	50.9	100.9	AA486705	AA486705	ab17h10..x
597	11.2	50.9	92.8	AZ761210	1M0555120	670	11.2	50.9	100.9	BE317443	BE317443	NF069F01L
598	11.2	50.9	93.1	AI620635	tu47h10..x	671	11.2	50.9	100.9	CF982642	CF982642	ma166F10..
599	11.2	50.9	93.7	T90753	y44h10..81	672	11.2	50.9	100.9	BH847936	BH847936	SNLK_0605
600	11.2	50.9	93.9	AL946391	ArabiIdops	673	11.2	50.9	100.9	AL856553	AL856553	ArabiIdops
601	11.2	50.9	93.9	CG501375	OST45203	674	11.2	50.9	100.9	BM320350	BM320350	ts88609..y
602	11.2	50.9	94.2	BE576515	dc40G03..y	675	11.2	50.9	100.9	AI522213	AI522213	ci179a07..x
603	11.2	50.9	94.2	BE576515	dc40G03..y	676	11.2	50.9	100.9	B1142424	B1142424	SMO3MCM
604	11.2	50.9	94.7	CK106807	UB34DPB10	677	11.2	50.9	100.9	AZ862275	AZ862275	2M0169H21
605	11.2	50.9	94.7	BZ763533	SNLK_1188	678	11.2	50.9	100.9	CR209416	CR209416	Forward s
606	11.2	50.9	95.8	BH169327	SNLK_0010	679	11.2	50.9	100.9	CG118452	CG118452	111905340
607	11.2	50.9	95.8	BZ354028	SNLK_1225	680	11.2	50.9	100.9	CG118608	CG118608	111905360
608	11.2	50.9	95.9	AG226495	Lotus cor	681	11.2	50.9	100.9	CG718626	CG718626	1119053H0

C 682	11	50.0	64	9	CG18668	1119053H1	755	11	50.0	81	9	CR18231	Forward s
C 683	11	50.0	64	9	CG18652	1119053H1	756	11	50.0	81	9	CG48063	OST12648
C 684	11	50.0	64	9	CG18710	1119054B0	757	11	50.0	82	9	BE139286	xr6bc08.x
C 685	11	50.0	64	9	CG18716	1119054B1	758	11	50.0	82	7	BU898285	X078B07 P
C 686	11	50.0	64	9	CG18764	1119054D0	759	11	50.0	82	5	CN974040	21567 100
C 687	11	50.0	64	9	CG18764	1119054D0	760	11	50.0	82	8	BH904896	SALK_1052
C 688	11	50.0	65	8	BZ356478	111908680	761	11	50.0	82	9	TA380801P	AI497731 T. dtucei
C 689	11	50.0	65	8	CG344018	OST140593	762	11	50.0	82	9	CL213175	A20078 CG
C 690	11	50.0	66	5	BP060614	BP060614	763	11	50.0	83	1	AJ239865	AJ239865
C 691	11	50.0	67	2	BE408576	601302086	764	11	50.0	83	1	AG226338	Lotus cor
C 692	11	50.0	67	7	CR564625	CR564625	765	11	50.0	84	8	AF088153	AF088153
C 693	11	50.0	67	7	CNS02820	AL208489 Tetraxodon	766	11	50.0	84	9	AF622113	AF622113
C 694	11	50.0	68	6	CD028873	mgmy006XB	767	11	50.0	84	9	CG527878	CG527878
C 695	11	50.0	68	6	CD944791	RDO_6 Gen	768	11	50.0	84	9	CL459329	CL459329
C 696	11	50.0	68	6	CD958434	SCO_286 G	769	11	50.0	85	1	AA726291	AA726291
C 697	11	50.0	68	6	CD960698	SDP_132 G	770	11	50.0	85	1	AI000018	AI000018
C 698	11	50.0	69	1	AA902820	oK6Bh05.s	771	11	50.0	85	9	CG538686	CG538686
C 699	11	50.0	69	1	AV843337	AV843337	772	11	50.0	85	9	AG261397	Lotus cor
C 700	11	50.0	69	9	CR168856	Forward s	773	11	50.0	86	4	BI901603	id14c10.x
C 701	11	50.0	69	9	CG571020	OST200374	774	11	50.0	86	8	AZ654952	AZ654952
C 702	11	50.0	70	9	CL523772	DL65A06 F	775	11	50.0	86	9	CC794741	CC794741
C 703	11	50.0	71	8	BH019244	12602d.d	776	11	50.0	87	1	AA469073	AA469073
C 704	11	50.0	71	8	CC047490	3591.1.15	777	11	50.0	87	7	CK583619	IST WIS 5
C 705	11	50.0	71	9	CR047969	Reverse s	778	11	50.0	87	9	CR140549	Forward s
C 706	11	50.0	71	9	CG502111	OST46571	779	11	50.0	88	6	CD866122	AZ02.102K
C 707	11	50.0	72	1	AI022663	oX05h12.x	780	11	50.0	88	7	R03334	R03334 PK05h11.b1
C 708	11	50.0	72	1	AA561835	v123d10..x	781	11	50.0	88	9	BK659987	BK659987 Arabidops
C 709	11	50.0	72	1	CG631425	OST347803	782	11	50.0	88	9	CN602EPX	AL195614 Tetraxodon
C 710	11	50.0	73	2	BF228797	SMOVL3CAN	783	11	50.0	88	9	CR159896	Reverse s
C 711	11	50.0	73	7	CK725798	SWWBL3CAN	784	11	50.0	88	9	CG696557	BARC.BFGL
C 712	11	50.0	73	9	BX127177	Danio rer	785	11	50.0	88	9	CL256662	XO0476.Sa
C 713	11	50.0	73	9	DMES46377	Drosophila	786	11	50.0	89	7	CF917334	BF10r498.
C 714	11	50.0	73	9	AG226392	Lotus cor	787	11	50.0	89	9	CR184428	CR184428 Forward s
C 715	11	50.0	74	6	CAS87100	LBG27P44	788	11	50.0	90	6	CAS84318	LBBO0164.
C 716	11	50.0	74	8	AZ342065	1M0074K23	789	11	50.0	90	8	BH61973	BH61973 SALK_0883
C 717	11	50.0	74	8	AZ480239	1M0301P02	790	11	50.0	90	8	BH861989	BH861989 SALK_0883
C 718	11	50.0	74	9	CG587446	OST237054	791	11	50.0	90	9	CG629986	OST344624
C 719	11	50.0	75	1	AI053805	q170g12.x	792	11	50.0	91	1	AI122947	OK32B09.s
C 720	11	50.0	75	1	AA620221	v064C05..x	793	11	50.0	91	1	AA125982	zn27H04..x
C 721	11	50.0	76	1	AA071900	mmh71d02..x	794	11	50.0	91	1	AI765086	w148a04.x
C 722	11	50.0	76	1	AI433822	rh81h08..x	795	11	50.0	91	1	AA256895	zr80h10..x
C 723	11	50.0	76	1	AI540113	t409e09..x	796	11	50.0	92	2	BE493159	kh52a05.Y
C 724	11	50.0	76	1	AA197264	zq11f02..x	797	11	50.0	92	4	BM034349	BM034349
C 725	11	50.0	76	5	BP068961	BP068961	798	11	50.0	92	6	CD620303	56077773H
C 726	11	50.0	76	8	AZ789168	2M0036C13	799	11	50.0	93	5	BQ234991	hd52f03..g
C 727	11	50.0	76	8	CT798483	SALK_1464	800	11	50.0	93	6	CD942103	RBN_84 Ge
C 728	11	50.0	77	5	CG575629	OST209591	801	11	50.0	93	6	CD951289	SAV_37 Ge
C 729	11	50.0	77	5	BU832517	T034G12.P	802	11	50.0	93	9	CG473566	OST1050 M
C 730	11	50.0	77	8	BZ292554	SALK_1244	803	11	50.0	94	1	AA647684	vp03e06..x
C 731	11	50.0	77	9	CG549254	OST152329	804	11	50.0	94	1	AI032136	o876c10..b
C 732	11	50.0	78	4	BM270300	saK11a03..	805	11	50.0	94	1	AI894251	ms60H03..x
C 733	11	50.0	78	7	CK429285	oJ34f10..Y	806	11	50.0	94	1	CG533940	OST120431
C 734	11	50.0	78	9	CG696043	BARC.BFGL	807	11	50.0	95	1	AU256824	AU256824
C 735	11	50.0	79	1	AI789619	u126f07..x	808	11	50.0	95	8	BH852036	BH852036
C 736	11	50.0	79	4	BM434174	1RT03H09	809	11	50.0	95	8	BZ355017	BZ355017
C 737	11	50.0	79	5	BQ583067	E012098-0	810	11	50.0	95	9	CG589153	OST241005
C 738	11	50.0	79	8	AZ855035	2M0158120	811	11	50.0	96	8	AZ835550	DM09e0P13
C 739	11	50.0	79	8	BH229536	1006152H0	812	11	50.0	96	9	AG216008	AG216008
C 740	11	50.0	79	8	BH902922	SALK_1015	813	11	50.0	96	8	BH608902	16h1.LtL8
C 741	11	50.0	79	8	CC060087	EY01553-3	814	11	50.0	97	1	AA767103	aa767111.s
C 742	11	50.0	79	9	CR075970	Forward s	815	11	50.0	97	4	BI881470	fm93a10.Y
C 743	11	50.0	79	9	CR165629	Reverse s	816	11	50.0	97	4	BM777153	fy23b01.x
C 744	11	50.0	79	9	CG580482	OST219875	817	11	50.0	97	8	BH499992	SALK_0706
C 745	11	50.0	80	1	AA897329	a147e10..s	818	11	50.0	97	8	CC177913	XST050 Ba
C 746	11	50.0	80	4	BI845278	f692f08..Y	819	11	50.0	97	8	CC177914	XST047 Ba
C 747	11	50.0	80	8	BZ770515	SALK_1434	820	11	50.0	97	8	CC177918	XST034 Ba
C 748	11	50.0	80	9	BM002547	Arabidops	821	11	50.0	97	8	CC177919	XST032 Ba
C 749	11	50.0	80	9	CG516399	OST74984	822	11	50.0	97	8	CC177920	XST028 Ba
C 750	11	50.0	81	1	AI066019	BSBmFMSZ0	823	11	50.0	97	8	CC177921	XST027 Ba
C 751	11	50.0	81	1	AA155686	z070c12..x	824	11	50.0	97	8	CC177922	XST009 Ba
C 752	11	50.0	81	8	BH895827	3526.1.35	825	11	50.0	97	8	CC177928	XST009 Ba
C 753	11	50.0	81	8	BZ593881	SALK_0823	826	11	50.0	97	9	HS0227831	Homo sapi
C 754	11	50.0	81	9	BX003728	Arabidops	827	11	50.0	97	9	HS0227831	Homo sapi


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C 974 10.8 49.1 74 9 AL946921 Arabidops
C 975 10.8 49.1 74 9 BX004406 Arabidops
C 976 10.8 49.1 74 9 CR171048 Forward s
C 977 10.8 49.1 74 9 CR173629 Reverse s
C 978 10.8 49.1 74 9 CR232981 Reverse s
C 979 10.8 49.1 74 9 CG512126 OST64889
C 980 10.8 49.1 75 1 AJ770127
C 981 10.8 49.1 75 6 CD964932 SBG_286 G
C 982 10.8 49.1 75 8 CC458958 SALX_1231
C 983 10.8 49.1 75 9 CR018010 Reverse s
C 984 10.8 49.1 75 9 AG204575 Pan trogl
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C 987 10.8 49.1 76 9 CG496721 OST36933
C 988 10.8 49.1 77 4 BI704104 r053a02.Y
C 989 10.8 49.1 77 4 BI742940 kx36h07.Y
C 990 10.8 49.1 77 7 D34523
C 991 10.8 49.1 77 8 BZ661787 SALX_0252
C 992 10.8 49.1 77 9 CG494659 OST33662
C 993 10.8 49.1 78 6 AG263339 Lotus cor
C 994 10.8 49.1 78 6 CD743805 IRB10_H10
C 995 10.8 49.1 79 7 CK352030 h9gfha47C
C 996 10.8 49.1 80 6 CD403854 Gm_CK2663
C 997 10.8 49.1 80 7 CD857030 DH0A2ZG1
C 998 10.8 49.1 80 7 CF982776 mJ92h11.
C 999 10.8 49.1 80 8 BH848435 SALX_0682
1000 10.8 49.1 80 9 AG242157 Lotus cor
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ALIGNMENTS

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RESULT 1
AZ431742 63 bp DNA linear GSS 03-OCT-2000
LOCUS 1M0216018R Mouse 10kb plasmid UUGCIM library Mus musculus genomic
DEFINITION clone UUGCIM0216018 R, genomic survey sequence.
ACCESSION AZ431742
VERSION AZ431742.1 GI:10555755
KEYWORDS GSS.
SOURCE Mus musculus (house mouse)
ORGANISM Mus musculus
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REFERENCE 1 (bases 1 to 63)

AUTHORS Dunn,D., Aoyagi,A., Barber,M., Beacom,T., Duval,B., Hamil,C., Islam,H., Longacre,S., Mahmoud M., Meenen,E., Pedersen,T., Reilly,M., Rose,M., Rose,R., Stokes,R., Tingey,A., von Niederhausern,A. and Wright,D., Weiss,R.,

TITLE Mouse whole genome scaffolding with paired end reads from 10kb plasmid inserts

JOURNAL Unpublished (2000)

COMMENT Contact: Robert B. Weiss
University of Utah Genome Center
University of Utah
Rm. 308, Biomedical Polymers Research Bldg., 20 S. 2030 E., SLC, UT
84112, USA
Tel: 801 585 5606
Fax: 801 585 7177

FEATURES
source
1. .63
/organism="Mus musculus"
/mol_type="genomic DNA"
/strain="C57BL/6J"
/db_xref="taxon:10090"
/clone="UUGCIM0216018"
/sex="Male"

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/lab_host="E. Coli strain XL10-Gold, T1-resistant, F-"  
/clone_lib="Mouse 10kb plasmid UUGCIM library"  
/note="Vector: PWD42nv; Purified genomic DNA from M.  
musculus C57BL/6J (male) was obtained from the Jackson  
Laboratory Mouse DNA Resource  
(http://www.jax.org/resources/documents/dnares/). The DNA  
was hydrodynamically sheared by repeated passage through a  
0.005 inch orifice at constant velocity. The sheared DNA  
was blunt end-repaired with T4 DNA polymerase and T4  
polynucleotide kinase. Adaptor oligonucleotides were  
ligated to the blunt ends in high molar excess. The  
adapored DNA was purified and size-selected for a 9.5 to  
10.5 kb range using preparative agarose gel  
electrophoresis. Vector DNA was prepared from a derivative  
of pWD42 (gi|473214|gb|AF129072.1), a copy-number  
inducible derivative of plasmid R1. The vector was ligated  
with adaptors complementary to the insert adaptors and  
purified. The sheared, adapored mouse DNA was annealed to  
adapored vector DNA, and transformed into  
chemically-competent E. coli XL10-Gold (Stratagene) cells  
and selected for ampicillin resistance."
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ORIGIN

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Query Match 70.9%; Score 15.6; DB 8; Length 63;  
Best Local Similarity 81.8%; Pred. No. 2.8e+03;  
Matches 18; Conservative 0; Mismatches 4; Indels 0; Gaps 0;
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1 TGACTGTGAACGTCGACATGA 22  
36 TGAATGTGAATGTTGAAATGA 57
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RESULT 2  
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LOCUS OST184609 Mus musculus 129Sv/Ev Mus musculus genomic clone  
DEFINITION OST184609, genomic survey sequence.  
ACCESSION CG562292  
VERSION CG562292.1 GI:37348879  
KEYWORDS GSS.  
SOURCE Mus musculus (house mouse)  
ORGANISM Mus musculus
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REFERENCE 1 (bases 1 to 78)

AUTHORS Zambrrowscz,B.P., Abuhin,A., Ramirez-Solis,R., Richter,L.J., Piggett,J., BeltrandelRio,H., Buxton,E.C., Edwards,J., Finch,R.A., Fridde,C.J., Gupta,A., Hansen,G., Hu,Y., Huang,W., Jasing,C., Key,B.W., Jr., Kipp,P., Kohlhautf., Ma,Z.-Q., Markesich,D., Payne,R., Potter,D.G., Qian,N., Shaw,J., Schrick,U., Shi,Z.-Z., Sparks,M.J., Van Sligtenhorst,I., Vogel,P., Walke,W., Xu,N., Zhu,Q., Person,C. and Sands,A.T.

TITLE Mnk1 kinase deficiency lowers blood pressure in mice: a gene-trap screen to identify potential targets for therapeutic intervention

JOURNAL Proc. Natl. Acad. Sci. U.S.A. 100 (24), 14109-14114 (2003)

COMMENT Contact: Zambrowscz BP
OmiBank
Lexicon Genetics Incorporated
4000 Research Forest Drive, The Woodlands, TX 77381, USA
Email: materials@lexgen.com
Gene trap sequence tag generated by 3' RACE from mouse ES cells as described in Zambrowscz et al (Nature. 1998 Apr 9;392(6676):608-11)
Class: Gene Trap.
Location/Qualifiers
1. .78
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/mol_type="genomic DNA"
/strain="129Sv/Ev"
/db_xref="taxon:10090"
/clone="OST184609"
/cell_type="embryonic stem cell"
/clone_lib="Mus musculus 129Sv/Ev"

ORIGIN

Query Match 69.1%; Score 15.2; DB 9; Length 78;
 Best Local Similarity 77.3%; Pred. No. 4.7e+03;
 Matches 17; Conservative 0; Mismatches 5; Indels 0; Gaps 0;

QY 1 TGAAGTGAACGTTGAGATGA 22
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 26 TGACTNTGAACGAGGAGANGA 47

RESULT 3
 LOCUS CG578258 92 bp DNA linear GSS 02-OCT-2003
 DEFINITION OST215285 Mus musculus 129sv/Ev Mus musculus genomic clone
 CG578258
 ACCESSION CG578258
 VERSION CG578258.1 GI:37370507
 KEYWORDS GSS.
 SOURCE Mus musculus (house mouse)
 ORGANISM Mus musculus
 Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.

REFERENCE 1 (bases 1 to 92)
 Zambrowicz, B.P., Abuin, A., Ramirez-Solis, R., Richter, L.J., Piggett, J., Beltrande-Rio, H., Buxton, E.C., Edwards, J., Finch, R.A., Fridde, C.J., Gupta, A., Hansen, G., Hu, Y., Huang, W., Jaing, C., Key, B.W., Jr., Kipp, P., Kohlhauff, B., Ma, Z.-Q., Markesich, D., Payne, R., Potter, D.G., Qian, N., Shaw, J., Schick, J., Shi, Z.-Z., Sparks, M.J., Van Sligtenhorst, I., Vogel, P., Walke, W., Xu, N., Zhu, Q., Person, C. and Sands, A.T.
 Mnk1 kinase deficiency lowers blood pressure in mice: a gene-trap screen to identify potential targets for therapeutic intervention
 Proc. Natl. Acad. Sci. U.S.A. 100 (24), 14109-14114 (2003)
 Contact: Zambrowicz Bp

JOURNAL
 COMMENT OmniBank
 Lexicon Genetics Incorporated
 4000 Research Forest Drive, The Woodlands, TX 77381, USA
 Email: materials@lexgen.com
 Gene trap sequence tag generated by 3' RACE from mouse ES cells as described in Zambrowicz et al (Nature. 1998 Apr 9;392(6676):608-11)
 Classes: Gene Trap.
 Location/Qualifiers

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 /strain="129sv/Ev"
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 /clone_1ib="Mus musculus 129sv/Ev"

ORIGIN
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 Best Local Similarity 77.3%; Pred. No. 4.9e+03;
 Matches 17; Conservative 0; Mismatches 5; Indels 0; Gaps 0;

QY 1 TGAAGTGAACGTTGAGATGA 22
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 41 TGACTNTGAACGAGGATANGA 62

RESULT 4
 LOCUS A133875 99 bp mRNA linear EST ic-DEC-1998
 DEFINITION SMOVAFCAP17G08SK Onchocerca volvulus adult female cDNA (SMOVAFCAP17G08 5', mRNA sequence.
 A133875
 ACCESSION A133875
 VERSION A133875.1 GI:4028663
 KEYWORDS EST.
 SOURCE Onchocerca volvulus
 ORGANISM Onchocerca volvulus
 Eukaryota; Metazoa; Nematoda; Chromadorea; Spirurida; Filarioidea;

REFERENCE
 AUTHORS Lizotte-Waniewski, M. and Williams, S.A.
 TITLE Genes expressed in adult female stage of Onchocerca volvulus
 JOURNAL Unpublished (1998)
 COMMENT Contact: Steven A. Williams
 Molecular Parasitology
 Smith College Department of Biological Sciences
 Department of Biological Sciences, Clark Science Center, Smith College, Northampton, MA, 01063, USA
 Tel: 4135853826
 Fax: 4135853786
 Email: genome@smith.edu
 Seq primer: pbluscript SK.
 Location/Qualifiers

FEATURES
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 /mol_type="mRNA"
 /db_xref="taxon:6282"
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 /sex="female"
 /dev_stage="adult"
 /lab_host="XLI-Blue MRF"
 /clone_1ib="Onchocerca volvulus adult female cDNA (SMOVAFCAP17G08)"
 /note="Vector: lambda Uni-ZAP XR; Site 1: Eco RI; Site 2: Xho I; Filarial nematode parasite of humans. Two adult female worms of Onchocerca volvulus were isolated from consenting patients and quick frozen. Adult female mRNA was converted to double-stranded cDNA using reverse transcriptase and oligo(dT) followed by RNase H and DNA pol I. The library has 7 x 10E5 independent recombinants and the average insert size is ~1100bp. The library was constructed by Michelle Lizotte-Waniewski with worms provided by Dr. Sara Lustigman. The library is available from Dr. Steven A. Williams, email: genome@smith.edu."

ORIGIN
 Query Match 67.3%; Score 14.8; DB 1; Length 99;
 Best Local Similarity 88.9%; Pred. No. 8e+03;
 Matches 16; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

QY 5 TGTGAACGTTGAGATGA 22
 |||||
 8 TGTGAACGTTGAGATGA 25

RESULT 5
 LOCUS BX536599/c 100 bp DNA linear GSS 04-APR-2004
 DEFINITION Arabidopsis thaliana T-DNA flanking sequence GK-53G04-020337, genomic survey sequence.
 BX536599
 ACCESSION BX536599
 VERSION BX536599.1 GI:31413729
 KEYWORDS GSS.
 SOURCE Arabidopsis thaliana (thale cress)
 ORGANISM Arabidopsis thaliana
 Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta; Spermatophyta; Magnoliophyta; eudicotyledons; core eudicots; rosids; eurosids II; Brassicales; Brassicaceae; Arabidopsids.

REFERENCE
 AUTHORS Li, Y., Rosso, M.G., Strizhov, N., Viehaver, P. and Weisshaar, B.
 TITLE GABI-Kat: a flanking sequence tag (FST) database for the identification of T-DNA insertion mutants in Arabidopsis thaliana
 Bioinformatics 19 (11), 1441-1442 (2003)
 MEDLINE 22755829
 PUBMED 12874060

JOURNAL
 MEDLINE 22755829
 PUBMED 12874060

REFERENCE
 AUTHORS Rosso, M.G., Li, Y., Strizhov, N., Reiss, B., Dekker, K. and Weisshaar, B.
 TITLE An Arabidopsis thaliana T-DNA mutagenized population (GABI-Kat) for flanking sequence tag-based reverse genetics

JOURNAL Plant Mol. Biol. 53 (1-2), 247-259 (2003)
 MEDLINE 23117147
 PubMed 14756321
 REFERENCE 3
 AUTHORS Strizhov, N., Li, Y., Rosso, M.G., Viehoveer, P., Dekker, K.A. and Weishaar, B.
 TITLE High-throughput generation of sequence indexes from T-DNA mutagenized Arabidopsis thaliana lines
 JOURNAL Biotechniques 35 (6), 1164-1168 (2003)
 PUBMED 14682050
 REFERENCE 4 (bases 1 to 100)
 AUTHORS Rosso, M.G., Li, Y., Strizhov, N. and Weishaar, B.
 TITLE Direct Submision
 JOURNAL Submitted (31-MAR-2004) Weishaar B., Max-Planck-Institut fuer Zuechtungsforchung, Carl-von-Linne-Weg 10, Koeln, 50829, Germany
 COMMENT This sequence has been recovered from the left border of the T-DNA. It indicates an insertion within the locus defined by BAC clone MIF21. Details on the protocols used for generation of the sequence are described in References 1-3. The sequences are generated at the MPI for Plant Breeding Research in the context of the GABI-Kat project. GABI-Kat is part of the German Plant Genomics program designated 'GABI'. Information on line availability can be found at: <http://www.mpiz-koeln.mpg.de/GABI-Kat/>.
 FEATURES
 source
 1..100
 /organism="Arabidopsis thaliana"
 /mol_type="genomic DNA"
 /strain="Columbia 0"
 /db_xref="taxon:3702"
 /clone_lib="Arabidopsis thaliana T-DNA insertion lines"
 /ecotype="Col-0"
 /note="PCR was performed on DNA from Arabidopsis thaliana plants (T1) which were transformed with the T-DNA from vector pAC161 (Genbank accession number: AJ537514). The lines contain one or more T-DNA insertions. The DNA fragment(s) resulting from the PCR were directly sequenced to determine the genomic sequence flanking the insertion. T-DNA derived sequences were removed."

CIRAD
 TA 40/03 ave Agropolis 34398 Montpellier cedex 5 FRANCE
 Tel: 33467615629
 Fax: 33467615605
 Email: emmanuel.guiderdon@cirad.fr
 Class: TDNA tagged.
 FEATURES
 source
 1..77
 /organism="Oryza sativa (japonica cultivar-group)"
 /mol_type="genomic DNA"
 /cultivar="Nipponbare"
 /db_xref="taxon:39947"
 /clone_lib="Flanking Sequence Tag of Oryza sativa T-DNA insertion lines"
 /note="PCR was performed on DNA of primary transformants of Oryza sativa plants. The DNA fragment(s) resulting of PCR were directly sequenced from the left border to determine the genomic sequence flanking the insertion. T-DNA derived sequences were removed. Information to order the corresponding mutant line and a link to a database providing a graphical display is available from June 2004 at <http://genoplante-info.infobiogen.fr/oryzatagline/>. This sequence has been generated in the framework of the French plant genomics program Genoplante (<http://www.genoplante.org> and <http://genoplante-info.infobiogen.fr>)."

ORIGIN
 Query Match 66.4%; Score 14.6; DB 9; Length 77;
 Best Local Similarity 81.0%; Pred. No. 9, 7e+03;
 Matches 17; Conservative 0; Mismatches 4; Indels 0; Gaps 0;

QY 1 TGACGTGACGTCGAGATG 21
 |||
 Db 19 TGGCTTGAACCTTGAGCTG 39

RESULT 7
 CG552453 93 bp DNA linear GSS 01-OCT-2003
 LOCUS OST161720 Mus musculus 129Sv/Ev Mus musculus genomic clone
 DEFINITION CG552453
 VERSION CG552453
 KEYWORDS GSS.
 SOURCE Mus musculus (house mouse)
 ORGANISM Mus musculus
 Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
 1 (bases 1 to 93)
 Zambrowicz, B.P., Abuin, A., Ramirez-Solis, R., Richter, L.J., Piggett, J., Beltrandel-Rio, H., Buxton, E.C., Edwards, J., Finch, R.A., Friedle, C.J., Gupta, A., Hansen, G., Hu, Y., Huang, W., Jiang, C., Key, B.W., Jr., Kipp, P., Kohlhaut, B., Ma, Z.-O., Maresh, D., Payne, R., Potter, D.G., Qian, N., Shaw, J., Schrick, U., Shi, Z.-Z., Sparks, M.J., Van Sligtenhorst, I., Vogel, P., Walke, W., Xu, N., Zhu, Q., Person, C. and Sands, A.T.
 Mnk1 kinase deficiency lowers blood pressure in mice: a gene-trap screen to identify potential targets for therapeutic intervention
 Proc. Natl. Acad. Sci. U.S.A. 100 (24), 14109-14114 (2003)
 CONTACT: Zambrowicz BP
 OmniBank
 Lexicon Genetics Incorporated
 4000 Research Forest Drive, The Woodlands, TX 77381, USA
 Email: materials@lexgen.com
 Gene trap sequence tag generated by 3' RACE from mouse ES cells as described in Zambrowicz et al (Nature. 1998 Apr 9;392(6676):608-11)
 Class: Gene Trap.
 FEATURES
 source
 1..93
 /organism="Mus musculus"
 /mol_type="genomic DNA"
 /strain="129Sv/Ev"

ORIGIN

Query Match 66.4%; Score 14.6; DB 9; Length 93;
Best Local Similarity 77.3%; Pred. No. 1e+04;
Matches 17; Conservative 0; Mismatches 5; Indels 0; Gaps 0;

QY 1 TGACTGTAACGTTGAGATGA 22
|||||
65 TGACTTTGAACGGGAGAGA 86

RESULT 8
BX127224 72 bp DNA linear GSS 28-JAN-2003
DEFINITION Danio rerio genomic clone DKEX-73E13, genomic survey sequence.
ACCESSION BX127224
VERSION BX127224.1 GI:27958174
KEYWORDS GSS.
SOURCE Danio rerio (zebrafish)
ORGANISM Danio rerio
REFERENCE Bukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Actinopterygii; Neopterygii; Teleostei; Ostariophysi; Cypriniformes; Cyprinidae; Danio.
AUTHORS Humphrey, S.J., Huckle, E. and Durham, J.L.
TITLE Direct Submission
JOURNAL Submitted (27-JAN-2003) The Sanger Institute, Wellcome Trust Genome Campus, Hinxton, Cambridgeshire, CB10 1SA, UK. E-mail enquiries: humphrey@sanger.ac.uk Unpublished
This sequence was generated from the T7 end of BAC 73E13. 73E13 is part of the Daniokey BAC Library created by R. Plaetker and N.V. Keygene. Further details: http://www.sanger.ac.uk/Projects/D_rerio/.

FEATURES
source 1..72
/organism="Danio rerio"
/mol_type="genomic DNA"
/db_xref="taxon:7955"
/clone="DKEX-73E13"
/issue_type="Testis"
/note="Vector pindigobAC-536"

ORIGIN

Query Match 64.5%; Score 14.2; DB 9; Length 72;
Best Local Similarity 84.2%; Pred. No. 1.6e+04;
Matches 16; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

QY 4 CTCTGAACGTTGAGATGA 22
|||||
54 CTGTAAACGTTGAGGTTA 72

RESULT 9
AA748429 67 bp mRNA linear EST 18-FEB-1998
LOCUS AA748429 ny01b05.s1 NCI_CGAP_GCB1 Homo sapiens cDNA clone IMAGE:127049 3', mRNA sequence.
DEFINITION
ACCESSION AA748429
VERSION AA748429.1 GI:2788387
KEYWORDS EST.
SOURCE Homo sapiens (human)
ORGANISM Homo sapiens
REFERENCE Bukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Primates; Catarrhini; Hominiidae; Homo.
AUTHORS NCI-CGAP <http://www.ncbi.nlm.nih.gov/ncicgap>.
TITLE National Cancer Institute, Cancer Genome Anatomy Project (CGAP), Tumor Gene Index
JOURNAL Unpublished (1997)

COMMENT

Contact: Robert Strausberg, Ph.D.
Email: cgapbs-remail.nih.gov
Tissue Procurement: Louis M. Staudt, M.D., Ph.D., David Allman, Ph.D., Gerald Marti, M.D.
cDNA Library Preparation: M. Bento Soares, Ph.D., M. Fatima Bonaldo, Ph.D.
cDNA Library Arrayed by: Greg Lennon, Ph.D.
DNA Sequencing by: Washington University Genome Sequencing Center
Clone distribution: NCI-CGAP clone distribution information can be found through the I.M.A.G.E. Consortium/ILN at: www.bio.lnln.gov/bbp/image/image.html
Insert length: 863 Std Error: 0.00
Seq primer: -40m13 fwd. Et from Amersham
High quality sequence stop: 55.
Location/Qualifiers
1..67
/organism="Homo sapiens"
/mol_type="mRNA"
/db_xref="taxon:9606"
/clone="IMAGE:1270449"
/issue_type="germinal center B cell"
/lab_host="DH10B"
/clone_lib="NCI_CGAP GCB1"
/note="Vector: pT7T3D-Pac (pharmacia) with a modified polylinker; Site 1: Not I; Site 2: Eco RI; 1st strand cDNA was prepared from human tonsillar cells enriched for germinal center B cells by flow sorting (CD20+, IgD-), provided by Dr. Louis M. Staudt (NCI). Dr. David Allman (NCI) and Dr. Gerald Marti (CBER). cDNA synthesis was primed with a Not I - oligo (dT) primer
15'-TGTTACCAATCTGAAGTCGAGCGCCGCTCATTTTCTTTTCTTTT-3'. Double-stranded cDNA was ligated to Eco RI adaptors (Pharmacia), digested with Not I and cloned into the Not I and Eco RI sites of the modified pT7T3 vector. Library went through one round of normalization, and was constructed by Bento Soares and M. Fatima Bonaldo."

ORIGIN

Query Match 63.6%; Score 14; DB 1; Length 67;
Best Local Similarity 77.3%; Pred. No. 2e+04;
Matches 17; Conservative 0; Mismatches 5; Indels 0; Gaps 0;

QY 1 TGACTGTAACGTTGAGATGA 22
|||||
49 TGCTTTGAAGTGGAGATGA 28

RESULT 10
AG221379 73 bp DNA linear GSS 19-JUL-2003
LOCUS AG221379 Lotus corniculatus var. japonicus DNA, clone: LJB05g07_r, genomic survey sequence.
DEFINITION
ACCESSION AG221379
VERSION AG221379.1 GI:26527575
KEYWORDS GSS.
SOURCE Lotus corniculatus var. japonicus (Lotus japonicus)
ORGANISM Lotus corniculatus var. japonicus
REFERENCE Bukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta; Spermatophyta; Magnoliophyta; eudicotyledons; core eudicots; rosids; eustosids I; Fabales; Fabaceae; Papilionoideae; Lotaeae; Lotus.
AUTHORS Sato, S., Nakamura, Y. and Tabata, S.
TITLE Lotus japonicus BAC End sequences
JOURNAL Published Only in Database (2002)
REFERENCE Sato, S.
AUTHORS Direct Submission
JOURNAL Submitted (20-NOV-2002) Shusei Sato, Kazusa DNA Research Institute, The First Laboratory for Plant Gene Research; 2-6-7 Kazusa-Kamatari, Kisarazu, Chiba 292-0818, Japan (E-mail: ssato@kazusa.or.jp, URL: <http://www.kazusa.or.jp/en/plant/>, Tel: 81-438-52-3935 (ex. 2336), Fax: 81-438-52-3934)

FEATURES Location/Qualifiers
source 1..73
/organism="Lotus corniculatus var. japonicus"
/mol_type="genomic DNA"
/strain="Miyakojima MG-20"
/variety="japonicus"
/db_xref="taxon:34305"
/clone_lib="genomic BAC library"
/note="VECTOR:pbeloBAC11-synonym: Lotus japonicus"

ORIGIN
Query Match 63.6%; Score 14; DB 9; Length 73;
Best Local Similarity 77.3%; Pred. No. 2e+04;
Matches 17; Conservative 0; Mismatches 5; Indels 0; Gaps 0;

QY 1 TGACTGTGAACGTCGAGATGA 22
|||||
Db 12 TGACTGTGAAGTCGGTATGA 33

RESULT 11
AZ583456/c 88 bp DNA linear GSS 13-DEC-2000
LOCUS IM0378G03F Mouse 10kb plasmid UUGCIM library Mus musculus genomic
DEFINITION clone UUGCIM0378G03 F, genomic survey sequence.
ACCESSION AZ583456
VERSION AZ583456.1 GI:11703357
KEYWORDS GSS.
SOURCE Mus musculus (house mouse)
ORGANISM Mus musculus
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
1 (bases 1 to 88)
Dunn, D., Aoyagi, A., Barber, M., Beacorn, T., Duval, B., Hamil, C.,
Islan, H., Longacre, S., Mahmood, M., Meenen, E., Pedersen, T.,
Reilly, M., Rose, M., Rose, R., Stokes, R., Tingey, A., von
Niederhausern, A. and Wright, D., Weis, R.
Mouse whole genome scaffolding with paired end reads from 10kb
plasmid inserts
Unpublished (2000)
Contact: Robert B. Weiss
University of Utah Genome Center
University of Utah
Rm. 308, Biomedical Polymers Research Bldg., 20 S. 2030 E., SLC, UT
84112, USA
Tel: 801 585 5606
Fax: 801 585 7177
Email: rdunn@genetics.utah.edu
Insert Length: 10000 Std Error: 0.00
Plate: 0378 row: G column: 03
Seq primer: CGTTGTAAACGACGCGCACT
Class: plasmid ends
High quality sequence stop: 88.
Location/Qualifiers
1..88
/organism="Mus musculus"
/mol_type="genomic DNA"
/strain="C57BL/6J"
/db_xref="taxon:10090"
/clone_lib="UUGCIM0378G03"
/sex="Male"
/lab_host="E. Coli strain XL10-Gold, T1-resistant, F-"
/clone_lib="Mouse 10kb plasmid UUGCIM library"
/note="Vector: PMD42nv; Purified genomic DNA from M.
musculus C57BL/6J (male) was obtained from the Jackson
Laboratory Mouse DNA Resource
(http://www.jax.org/resources/documents/dnares/). The DNA
was hydrodynamically sheared by repeated passage through a
0.005 inch orifice at constant velocity. The sheared DNA
was blunt end-repaired with T4 DNA polymerase and T4
polynucleotide kinase. Adaptor oligonucleotides were
ligated to the blunt ends in high molar excess. The

adaptored DNA was purified and size-selected for a 9.5 to
10.5 kb range using preparative agarose gel
electrophoresis. Vector DNA was prepared from a derivative
of pMD42 (gi|4732114|gb|AF129072.1), a copy-number
inducible derivative of plasmid R1. The vector was ligated
with adaptors complementary to the insert adaptors and
purified. The sheared, adaptored mouse DNA was annealed to
adaptored vector DNA, and transformed into
chemically-competent E. coli XL10-Gold (Stratagene) cells
and selected for ampicillin resistance."

ORIGIN
Query Match 63.6%; Score 14; DB 8; Length 88;
Best Local Similarity 77.3%; Pred. No. 2e+04;
Matches 17; Conservative 0; Mismatches 5; Indels 0; Gaps 0;

QY 1 TGACTGTGAACGTCGAGATGA 22
|||||
Db 54 TGATGTGATGTCAGACGCGA 33

RESULT 12
B1445449 96 bp mRNA linear EST 21-AUG-2001
LOCUS B1445449
DEFINITION daes1a09.y3 NICHD_XGC_Emb4 Xenopus laevis cDNA clone IMAGE:4680472
5', mRNA sequence.
ACCESSION B1445449
VERSION B1445449.1 GI:15270156
KEYWORDS EST.
SOURCE Xenopus laevis (African clawed frog)
ORGANISM Xenopus laevis
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Amphibia; Batrachia; Anura; Mesobatrachia; Pipridae; Pipidae;
Xenopodinae; Xenopus; Xenopus.
1 (bases 1 to 96)
NCI-CGAP http://www.ncbi.nlm.nih.gov/ncicgap.
National Cancer Institute, Cancer Genome Anatomy Project (CGAP),
Tumor Gene Index
Unpublished (1997)
Contact: Robert Strausberg, Ph.D.
Email: cga@b-r@mail.nih.gov
Tissue Procurement: Martha Rehbert, Steven L. Klein, Ph.D.
cDNA Library Preparation: Life Technologies, Inc.
cDNA library Arrayed by: The I.M.A.G.E. Consortium (ILNL)
DNA Sequencing by: Washington University Genome Sequencing Center
Clone distribution: Xenopus clones from this library are available
through the I.M.A.G.E. Consortium/ILNL at: info@image.llnl.gov
High quality sequence stop: 85.
Location/Qualifiers
1..96
/organism="Xenopus laevis"
/mol_type="mRNA"
/db_xref="taxon:8355"
/clone="IMAGE:4680472"
/dev_stage="embryo, stage 31-32"
/lab_host="DH10B (phage-resistant)"
/clone_lib="NICHD_XGC_Emb4"
/note="Organ: whole embryo; Vector: pCMV-SPORT6; Site 1:
NotI; Site 2: SalI; Cloned unidirectionally. Primer: Oligo
dT. Average insert size 2.1 kb. Constructed by Life
Technologies. Note: This is a Xenopus Gene Collection
(XGC) library."

FEATURES Location/Qualifiers
source 1..96
/organism="Xenopus laevis"
/mol_type="mRNA"
/db_xref="taxon:8355"
/clone="IMAGE:4680472"
/dev_stage="embryo, stage 31-32"
/lab_host="DH10B (phage-resistant)"
/clone_lib="NICHD_XGC_Emb4"
/note="Organ: whole embryo; Vector: pCMV-SPORT6; Site 1:
NotI; Site 2: SalI; Cloned unidirectionally. Primer: Oligo
dT. Average insert size 2.1 kb. Constructed by Life
Technologies. Note: This is a Xenopus Gene Collection
(XGC) library."

ORIGIN
Query Match 63.6%; Score 14; DB 4; Length 96;
Best Local Similarity 77.3%; Pred. No. 2.1e+04;
Matches 17; Conservative 0; Mismatches 5; Indels 0; Gaps 0;

QY 1 TGACTGTGAACGTCGAGATGA 22
|||||
Db 2 TGATGTGATTCGTTCAAGAGA 23

RESULT 13
AA840471 58 bp mRNA linear EST 27-FEB-1998
LOCUS vw76610.r1 Stragene mouse heart (#937316) Mus musculus cDNA clone
DEFINITION IMAGE:1260906 5', mRNA sequence.

ACCESSION AA840471
VERSION AA840471.1 GI:2916130
KEYWORDS EST.
SOURCE Mus musculus (house mouse)
ORGANISM Mus musculus

REFERENCE Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus. 1 (bases 1 to 58)
AUTHORS Marra, M., Hillier, L., Allen, M., Bowles, M., Dietrich, N., Dubuque, T., Geisel, S., Kucaba, T., Lacy, M., Le, M., Martin, J., Morris, M., Schellenberg, K., Steptoe, M., Tan, F., Underwood, K., Moore, B., Theising, B., Wylie, T., Lennon, G., Soares, B., Wilson, R. and Waterston, R.

TITLE The WashU-HMI Mouse EST Project
JOURNAL Unpublished (1996)
COMMENT Contact: Marra M/Mouse EST Project
WashU-HMI Mouse EST Project
Washington University School of Medicine
444 Forest Park Parkway, Box 8501, St. Louis, MO 63108
Tel: 314 286 1800
Fax: 314 286 1810
Email: mouseest@wustl.edu
This clone is available royalty-free through LNL; contact the IMAGE Consortium (info@image.lnl.gov) for further information.
MG1:663458
Seq primer: -28ml3 rev1 ET from Amersham
High quality sequence stop: 52.
Location/Qualifiers
1..58
/organism="Mus musculus"
/mol_type="mRNA"
/strain="NIH Swiss"
/db_xref="taxon:10090"
/clone="IMAGE:1260906"
/sex="pooled"
/tissue_type="heart"
/dev_stage="13 day embryos"
/lab_host="SOLR (kanamycin resistant)"
/clone_lib="Stragene mouse heart (#937316)"
/note="Organ: heart; Vector: pBluescript SK-; Site 1: EcoRI; Site 2: XhoI; Cloned unidirectionally. Primer: Oligo dT. 93 pooled NIH/Swiss 13 day embryo hearts. Average insert size: 1.0 kb; Uni-ZAP XR Vector; ~5' adaptor sequence: 5' GATTTCGCGACGAG 3' ~3' adaptor sequence: 5' CTCGAGTTT TTT TTT TTT TTT 3' "

ORIGIN
Query Match 61.8%; Score 13.6; DB 1; Length 58;
Best Local Similarity 80.0%; Pred. No. 3.1e+04;
Matches 16; Conservative 0; Mismatches 4; Indels 0; Gaps 0;

QY 1 TGACTGTGACGTCGAGAT 20
DB 23 TGACCTGACGTCGTCGT 42

RESULT 14
CL524160 68 bp DNA linear GSS 02-APR-2004
LOCUS SAG0604 Flanking Sequence Tag of Oryza sativa T-DNA insertion lines
DEFINITION Oryza sativa (japonica cultivar-group) genomic, genomic survey
sequence.
ACCESSION CL524160
VERSION CL524160.1 GI:46150960
KEYWORDS GSS.
SOURCE Oryza sativa (japonica cultivar-group)
ORGANISM Oryza sativa (japonica cultivar-group)
Bukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;

REFERENCE Spermatophyta; Magnoliophyta; Liliopsida; Poales; Poaceae; Ehrhartoideae; Oryzeae; Oryza. 1 (bases 1 to 68)
AUTHORS Sallaud, C., Gay, C., Larnande, P., Bes, M., Piffanel, P., Piegou, B., Droc, G., Regad, F., Bourgeois, E., Meryard, D., Perin, C., Chesquiere, A., Delzeny, M., Glaszmann, J.C., and Guiderdoni, E.
TITLE High throughput T-DNA insertion mutagenesis in rice: A first step towards in silico reverse genetics
JOURNAL Plant J. (2004) In press
COMMENT Contact: Guiderdoni
UMR PIA Biocrop program
CIRAD
TA 40/03 ave Agropolis 34398 Montpellier cedex 5 FRANCE
Tel: 33467615629
Fax: 33467615605
Email: emmanuel.guiderdoni@cirad.fr
Class: TDNA tagged.
Location/Qualifiers
1..68
/organism="Oryza sativa (japonica cultivar-group)"
/mol_type="genomic DNA"
/cultivar="Nipponbare"
/db_xref="taxon:39947"
/clone_lib="Flanking Sequence Tag of Oryza sativa T-DNA insertion lines"
/note="PCR was performed on DNA of primary transformants of Oryza sativa plants. The DNA fragment(s) resulting of PCR were directly sequenced from the left border to determine the genomic sequence flanking the insertion. T-DNA derived sequences were removed. Information to order the corresponding mutant line and a link to a database providing a graphical display is available from June 2004 at <http://genoplante-info.infobiogen.fr/oryzatagline/>. This sequence has been generated in the framework of the French plant genomics program Genoplante (<http://www.genoplante.org> and <http://genoplante-info.infobiogen.fr>)."

ORIGIN
Query Match 61.8%; Score 13.6; DB 9; Length 68;
Best Local Similarity 80.0%; Pred. No. 3.2e+04;
Matches 16; Conservative 0; Mismatches 4; Indels 0; Gaps 0;

QY 1 TGACTGTGACGTCGAGAT 20
DB 45 TAACTTGAACGTCGACAT 64

RESULT 15
CL524162 68 bp DNA linear GSS 02-APR-2004
LOCUS SAG0604 Flanking Sequence Tag of Oryza sativa T-DNA insertion lines
DEFINITION Oryza sativa (japonica cultivar-group) genomic, genomic survey
sequence.
ACCESSION CL524162
VERSION CL524162.1 GI:46150962
KEYWORDS GSS.
SOURCE Oryza sativa (japonica cultivar-group)
ORGANISM Oryza sativa (japonica cultivar-group)
Bukaryota; Viridiplantae; Streptophyta; Tracheophyta; Spermatophyta; Magnoliophyta; Liliopsida; Poales; Poaceae; Ehrhartoideae; Oryzeae; Oryza. 1 (bases 1 to 68)
REFERENCE Sallaud, C., Gay, C., Larnande, P., Bes, M., Piffanel, P., Piegou, B., Droc, G., Regad, F., Bourgeois, E., Meryard, D., Perin, C., Chesquiere, A., Delzeny, M., Glaszmann, J.C., and Guiderdoni, E.
TITLE High throughput T-DNA insertion mutagenesis in rice: A first step towards in silico reverse genetics
JOURNAL Plant J. (2004) In press
COMMENT Contact: Guiderdoni
UMR PIA Biocrop program
CIRAD
TA 40/03 ave Agropolis 34398 Montpellier cedex 5 FRANCE

Tel: 33467615629
Fax: 33467615605
Email: emmanuel.guiderdoni@cirad.fr
Class: TPDNA tagged.

0044

Query Match	61.8%	Score 13.6	DB: 9	Length 68
Best Local Similarity	80.0%	Pred. No. 3.2e+04		
Matches 16; Conservative	0	Mismatches 4	Indels 0	Gaps 0

RESULT 16	AA779179	LOCUS	DEFINITION
AA779179	40 bp	mRNA	linear
zj43c07.s1	Scarses fetal_liver_spleen	INFS	St Homo sapiens CDNA
clone IMAGE:433036	3' similar to TR:Q13537	Q13537	MER37
TRANSCRIPTABLE ELEMENT;	COMPLETE CONSENSUS SEQUENCE.		
MER37.62	MER37 repetitive element ;		mRNA sequence.

ORIGIN

Query Match	60.0%	Score 13.2	DB 1	Length 40
Best Local Similarity	83.3%	Pred. No. 4.7e+04		
Matches 15, Conservative	0	Mismatches 3	Indels 0	Gaps 0

RESULT	17
LOCUS	BH866537/c
DEFINITION	BH866537 48 bp DNA linear GSS 05-AUG-2007
ACCESSION	SALK_101461 Arabidopsis thaliana TDNA insertion lines Arabidopsi
VERSION	thaliana genomic clone SALK_101461, genomic survey sequence.
KEYWORDS	BH866537
SOURCE	BH866537.1 GI:22102435
ORGANISM	GSS. Arabidopsis thaliana (chale crese) Arabidopsis thaliana Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta; Spermatophytia; Magnoliophyta; eudicotyledons; core eudicots; rosids; eurosoid II; Brassicales; Brassicaceae; Arabidopsis. 1 (bases 1 to 48)
REFERENCE	Alonso,J.M., Leisse,T.J., Barajas,P., Chen,H., Cheuk,R., Garrinab,C., Jeske,A., Karnes,M., Kim,C.J., Parker,H., Prednisi,L., Shim,P., Zimmerman,J. and Ecker,J.R.
AUTHORS	A Sequence-indexed Library of Insertion Mutations in the Arabidopsis Genome Unpublished (2001) Contact: Joseph R. Ecker The Salk Institute Genomic Analysis Laboratory (Signal) 10010 N. Torrey Pines Road, La Jolla, CA 92037, USA Tel.: 858 453 4100 x1752 Fax: 858 558 6379 Email: eckere@salk.edu This is single pass sequence recovered from the left border of TDNA.
JOURNAL COMMENT	Class: TDNA tagged.

```

FEATURES
  source      Location/Qualifiers
              1..40
                /organism="Homo sapiens"
                /mol_type="mRNA"
                /db_xref="GDB:1389392"

```

ORIGIN

RESULT 21
 CN588245
 LOCUS TTE0002887 96 bp mRNA linear EST 05-MAY-2004
 DEFINITION Normalized large Tetrahymena thermophila cDNA, mRNA
 sequence.
 ACCESSION CN588245
 VERSION CN588245.1 GI:47040047
 KEYWORDS EST.
 SOURCE Tetrahymena thermophila
 ORGANISM Tetrahymena thermophila
 Eukaryota; Alveolata; Ciliophora; Oligohymenophorea;
 Hymenostomata; Tetrahymenina; Tetrahymena.
 1 (bases 1 to 96)
 REFERENCE
 AUTHORS Garg, J. and Pearlman, R.E.
 TITLE pepdbPub (http://amoeblida.bcm.umontreal.ca/public/pepdb/agrm.php)
 JOURNAL Unpublished (2004)
 COMMENT Contact: pepdb
 Departement de Biochimie, Universite de Montreal
 Email: pepdb-curator@bch.umontreal.ca
 Plate: 191.

FEATURES
 source
 1..96
 Location/Qualifiers
 /organism="Tetrahymena thermophila"
 /mol_type="mRNA"
 /db_xref="taxon:5911"
 /clone_lib="Normalized large"

ORIGIN
 Query Match 60.0%; Score 13.2; DB 7; Length 96;
 Best Local Similarity 83.3%; Pred. No. 5.4e+04;
 Matches 15; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

QY
 4 CTGTGAACGTTGAGATG 21
 |||||
 60 CTTTGAACGTTAGATG 77

Db

RESULT 22
 AL951982 99 bp DNA linear GSS 02-APR-2004
 LOCUS AL951982/c
 DEFINITION Arabidopsis thaliana T-DNA flanking sequence GK-340B03-016161,
 genomic survey sequence.
 ACCESSION AL951982
 VERSION AL951982.1 GI:24408604
 KEYWORDS GSS.
 SOURCE Arabidopsis thaliana (thale cress)
 ORGANISM Arabidopsis thaliana
 Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;
 Spermatophyta; Magnoliophyta; eudicotyledons; core eudicots;
 rosids; eurosids II; Brassicales; Brassicaceae; Arabidopsis.
 1
 REFERENCE
 AUTHORS Li, Y., Rosso, M.G., Strizhov, N., Viehoever, P. and Weishaar, B.
 TITLE GABI-Kat SimpleSearch: a flanking sequence tag (FST) database for
 the identification of T-DNA insertion mutants in Arabidopsis
 thaliana
 JOURNAL Bioinformatics 19 (11), 1441-1442 (2003)
 MEDLINE 22755829
 PUBMED 12874060
 REFERENCE
 AUTHORS Rosso, M.G., Li, Y., Strizhov, N., Reiss, B., Dekker, K. and
 Weishaar, B.
 TITLE An Arabidopsis thaliana T-DNA mutagenized population (GABI-Kat) for
 flanking sequence tag-based reverse genetics
 JOURNAL Plant Mol. Biol. 53 (1-2), 247-259 (2003)
 MEDLINE 23117147
 PUBMED 14756321
 REFERENCE
 AUTHORS Strizhov, N., Li, Y., Rosso, M.G., Viehoever, P., Dekker, K.A. and
 Weishaar, B.
 TITLE High-throughput generation of sequence indexes from T-DNA
 mutagenized Arabidopsis thaliana lines
 JOURNAL Biotechniques 35 (6), 1164-1168 (2003)
 PUBMED 14682050

REFERENCE
 AUTHORS Strizhov, N., Rosso, M.G., Li, Y. and Weishaar, B.
 TITLE Direct Submission
 JOURNAL Submitted (31-MAR-2004) Weishaar B., Max-Planck-Institut fuer
 Zuechtungsforchung, Carl-von-Linne-Weg 10, Koeln, 50829, Germany.
 COMMENT This sequence has been recovered from the left border of the T-DNA.
 It indicates an insertion within the locus defined by BAC clone
 T30A10. Details on the protocols used for generation of the
 sequence are described in References 1-3. The sequences are
 generated at the MPI for Plant Breeding Research in the context of
 the GABI-Kat project. GABI-Kat is part of the German Plant Genomics
 program designated 'GABI'. Information on line availability can be
 found at: http://www.mpiz-koeln.mpg.de/GABI-Kat/.

FEATURES
 source
 1..99
 Location/Qualifiers
 /organism="Arabidopsis thaliana"
 /mol_type="genomic DNA"
 /strain="Columbia 0"
 /db_xref="taxon:3702"
 /clone_lib="GK-340B03-016161"
 /clone_lib="Arabidopsis thaliana T-DNA insertion lines"
 /ecotype="Col-0"
 /note="PCR was performed on DNA from Arabidopsis thaliana
 plants (T1) which were transformed with the T-DNA from
 vector PAC161 (Genbank accession number: AJ537514). The
 lines contain one or more T-DNA insertions. The DNA
 fragment(s) resulting from the PCR were directly sequenced
 to determine the genomic sequence flanking the insertion.
 T-DNA derived sequences were removed."

ORIGIN
 Query Match 60.0%; Score 13.2; DB 9; Length 99;
 Best Local Similarity 83.3%; Pred. No. 5.5e+04;
 Matches 15; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

QY
 5 TGTGAACGTTGAGATGA 22
 |||||
 47 TGTAAACGTTCAATATGA 30

Db

RESULT 23
 AZ390824/c 100 bp DNA linear GSS 03-OCT-2000
 LOCUS AZ390824/c
 DEFINITION IM0152P20F Mouse 10kb plasmid UUGC1M library Mus musculus genomic
 clone UUGC1M0152P20 F, genomic survey sequence.
 ACCESSION AZ390824
 VERSION AZ390824.1 GI:10505867
 KEYWORDS GSS.
 SOURCE Mus musculus (house mouse)
 ORGANISM Mus musculus
 Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 Mammalia; Eutheria; Rodentia; Sclerognathi; Muridae; Murinae; Mus.
 1 (bases 1 to 100)
 REFERENCE
 AUTHORS Dunn, D., Aoyagi, A., Barber, M., Beacorn, T., Duval, B., Hamil, C.,
 Islam, H., Longacre, S., Mahmoud, M., Meenen, E., Pedersen, T.,
 Reilly, M., Rose, M., Rose, R., Stokes, R., Tingey, A., von
 Niederhausern, A. and Wright, D., Weis, R.
 TITLE Mouse whole genome scaffolding with paired end reads from 10kb
 plasmid inserts
 JOURNAL Unpublished (2000)
 COMMENT Contact: Robert B. Weiss
 University of Utah Genome Center
 University of Utah
 Rm. 309, Biomedical Polymers Research Bldg., 20 S. 2030 E., SLG, UT
 84112, USA
 Tel: 801 585 5606
 Fax: 801 585 7177
 Email: ddunn@genetics.utah.edu
 Insert Length: 10000 Std Error: 0.00
 Plate: 0152 row: P column: 20
 Seq primer: CGTTGTAACGACGCGCCAGT
 Class: plasmid ends
 High quality sequence stop: 100.

FEATURES
source
Location/Qualifiers
1. .100
/organism="Mus musculus"
/mol_type="genomic DNA"
/strain="C57BL/6J"
/db_xref="taxon:10090"
/clone="UUCG1M0152P20"
/sex="Male"
/lab_host="E. Coli strain XL10-Gold, T1-resistant, F-"
/clone_lib="Mouse 10kb plasmid UUCG1M library"
/note="Vector: PMD42nv, Purified genomic DNA from M. musculus C57BL/6J (male) was obtained from the Jackson Laboratory Mouse DNA Resource
(http://www.jax.org/resources/documents/dnares/). The DNA was hydrodynamically sheared by repeated passage through a 0.005 inch orifice at constant velocity. The sheared DNA was blunt end-repaired with T4 DNA polymerase and T4 polynucleotide kinase. Adaptor oligonucleotides were ligated to the blunt ends in high molar excess. The adaptor DNA was purified and size-selected for a 9.5 to 10.5 kb range using preparative agarose gel electrophoresis. Vector DNA was prepared from a derivative of PMD42 (g1473214|gb|AF129072.1), a copy-number inducible derivative of plasmid R1. The vector was ligated with adaptors complementary to the insert adaptors and purified. The sheared, adaptor mouse DNA was annealed to adaptor vector DNA, and transformed into chemically-competent E. coli XL10-Gold (Stratagene) cells and selected for ampicillin resistance."

ORIGIN

Query Match 60.0%; Score 13.2; DB 8; Length 100;
Best Local Similarity 83.3%; Pred. No. 5.5e+04;
Matches 15; Conservative 0; Mismatches 3; Indels 0; Gaps 0;

QY 1 TGAAGTGTGAACGTTGCAG 18
|||||
Db 38 TGAAGTGTGAACGTTGCAG 21

RESULT 24
AAB36207
LOCUS
DEFINITION
AAB36207 61 bp mRNA linear EST 25-MAR-1998
cd22h05.s1 NCI CGAP GCBI Homo sapiens CDNA clone IMAGE:1368729
similar to TR:092931 092931.3-HYDROXYISOBUTYRYL-COENZYME A
HYDROLASE.; mRNA sequence.
ACCESSION
AAB36207
VERSION
AAB36207.1 GI:2910526
KEYWORDS
EST.
SOURCE
Homo sapiens (human)
ORGANISM
Homo sapiens
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Homnidae; Homo.
REFERENCE
1 (bases 1 to 61)
NCI-CGAP http://www.ncbi.nlm.nih.gov/ncicgap.
TITLE
National Cancer Institute, Cancer Genome Anatomy Project (CGAP),
Tumor Gene Index
JOURNAL
Unpublished (1997)
COMMENT
Contact: Robert Strausberg, Ph.D.
Email: cgabbs-remail.nih.gov
Tissue Procurement: Louis M. Straudt, M.D., Ph.D., David Allman,
Ph.D., Gerald Marti, M.D.
CDNA Library Preparation: M. Bento Soares, Ph.D., M. Fatima
Bonaldo, Ph.D.
CDNA Library Arrayed by: Greg Lennon, Ph.D.
DNA Sequencing by: Washington University Genome Sequencing Center
Clone distribution: NCI-CGAP clone distribution information can be
found through the I.M.A.G.E. Consortium/LLNL at:
www.bio.llnl.gov/bbrp/image/image.html
Trace considered overall poor quality
Insert Length: 872 Std Error: 0.00
Seq primer: -40m13 fwd. ET from Amer sham

FEATURES
source
High quality sequence stop: 1.
Location/Qualifiers
1. .61
/organism="Homo sapiens"
/mol_type="mRNA"
/db_xref="taxon:9606"
/clone="IMAGE:1368729"
/tissue_type="germinal center B cell"
/lab_host="DH10B"
/clone_lib="NCI CGAP GCBI"
/note="Vector: pT73D-Pac (pharmacia) with a modified
polylinker; Site 1: Not I; Site 2: Eco RI; 1st strand cDNA
was prepared from human tonsillar cells enriched for
germinal center B cells by flow sorting (CD20+, IgD-),
provided by Dr. Louis M. Straudt (NCI), Dr. David Allman
(NCI) and Dr. Gerald Marti (CBER). cDNA synthesis was
primed with a Not I - oligo(dT) primer
[5'-GTTCACCATCTGAGAGGAGCGCCGCTCATTTTCTTTT-3'
]. Double-stranded cDNA was ligated to Eco RI adaptors
(pharmacia), digested with Not I and cloned into the Not I
and Eco RI sites of the modified pT73 vector. Library
went through one round of normalization, and was
constructed by Bento Soares and M. Fatima Bonaldo."

ORIGIN

Query Match 59.1%; Score 13; DB 1; Length 61;
Best Local Similarity 76.2%; Pred. No. 6.4e+04;
Matches 16; Conservative 0; Mismatches 5; Indels 0; Gaps 0;

QY 1 TGAAGTGTGAACGTTGCAGATG 21
|||||
Db 1 TGAAGTGTGAATTTAGAGATG 21

RESULT 25
BH127397
LOCUS
DEFINITION
G-1c17.x Maize Random Small-Insert Genomic Library Zea mays genomic
clone G-1c17 both, genomic survey sequence.
ACCESSION
BH127397
VERSION
BH127397.1 GI:14995229
KEYWORDS
GSS.
SOURCE
Zea mays
ORGANISM
Zea mays
Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;
Spermatophyta; Magnoliophyta; Liliopsida; Poales; Poaceae; PACCAD
clade; Panicoideae; Andropogoneae; Zea.
REFERENCE
1 (bases 1 to 62)
Meyers, B.C., Tingey, S.V. and Morgante, M.
Abundance, distribution and transcriptional activity of repetitive
elements in the maize genome
Genome Res. 11 (10), 1660-1676 (2001)
JOURNAL
21475670
MEDLINE
11591643
COMMENT
Contact: Morgante M
Suite 200
Dupont Genomics
PO Box 6104, Newark, DE 19714-6104, USA
Tel: 302 631 2638
Fax: 302 631 2607
Email: Michele.morgante@usa.dupont.com
Sequences were trimmed to include only high quality bases; forward
and reverse reads were assembled when significant overlaps were
detected.
Seq primer: M3reverse
Class: Shotgun
FEATURES
source
Location/Qualifiers
1. .62
/organism="Zea mays"
/mol_type="genomic DNA"
/strain="B73"
/db_xref="taxon:4577"
/clone="G-1c17"

/sex="hermaphrodite"
/cissue_type="leaf"
/cell_type="Young leaf"
/dev_stage="seedling"
/clone_lib="Maize Random Small-insert Genomic Library"
/note=Vector: PCR-Script; Total genomic DNA was
nbulitized; ends were polished with Pfu polymerase and the
fragments cloned into PCR-Script."

ORIGIN

Query Match 59.1%; Score 13; DB 8; Length 62;
Best Local Similarity 76.2%; Pred. No. 6.5e+04;
Matches 16; Conservative 0; Mismatches 5; Indels 0; Gaps 0;

QY 2 GACTGTGAACGTTCCGAGATGA 22
|||||
26 GAATGAGACCGATGAGATGA 46

RESULT 26 68 bp mRNA linear EST 29-OCT-1996
AA104737
LOCUS mos0c09.r1 Life Tech mouse embryo 10 5dpc 10665016 Mus musculus
DEFINITION CDNA clone IMAGE:557008 5', mRNA sequence.
ACCESSION AA104737 GI:1650951
VERSION AA104737.1
KEYWORDS EST.
SOURCE Mus musculus (house mouse)
ORGANISM Mus musculus

REFERENCE

AUTHORS

Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
1 (bases 1 to 68)
Marra, M., Hillier, L., Allen, M., Bowles, M., Dietrich, N., Dubuque, T.,
Geisel, S., Kucaba, T., Lacey, M., Le, M., Martin, J., Morris, M.,
Schellenberg, K., Steptoe, M., Tan, F., Underwood, K., Moore, B.,
Theising, B., Wylie, T., Lennon, G., Soares, B., Wilson, R. and
Waterson, R.
The WashU-HMI Mouse EST Project
Unpublished (1996)
Contact: Marra M/Mouse EST Project
WashU-HMI Mouse EST Project
Washington University School of Medicine
4444 Forest Park Parkway, Box 8501, St. Louis, MO 63108
Tel: 314 286 1800
Fax: 314 286 1810
Email: mouseest@watson.wustl.edu
This clone is available royalty-free through LNL; contact the
IMAGE Consortium (info@image.lnl.gov) for further information.
MGI:337800
Seq primer: -28M13 rev1 from Amer sham
High quality sequence stop: 60.
Location/Qualifiers

FEATURES

source

1..68
/organism="Mus musculus"
/mol_type="mRNA"
/strain="C57BL/6J"
/db_xref="taxon:10090"
/clone="IMAGE:557008"
/tissue_type="embryo"
/dev_stage="10.5dpc embryos"
/lab_host="DH10B"
/clone_lib="Life Tech mouse embryo 10 5dpc 10665016"
/note="Organ: whole embryo; Vector: PCMV-SPORT2; Site 1:
SalI; Site 2: NotI; Cloned unidirectionally. Primer:
Oligo dt. 10.5dpc embryos. PCMV-SPORT2 vector."

ORIGIN

Query Match 59.1%; Score 13; DB 1; Length 68;
Best Local Similarity 76.2%; Pred. No. 6.5e+04;
Matches 16; Conservative 0; Mismatches 5; Indels 0; Gaps 0;

QY 1 TGACTGTGAACGTTCCGAGATG 21
|||||

Db 68 TGACTGTGAACGTTCCGAGG 48

RESULT 27 70 bp mRNA linear EST 15-JUL-2003
CD936672
LOCUS RAE_81 GeneTag1 Zea mays cDNA, mRNA sequence.
DEFINITION CD936672
ACCESSION RAE_81 GeneTag1 Zea mays cDNA, mRNA sequence.
VERSION CD936672.1 GI:3287770
KEYWORDS EST.
SOURCE Zea mays
ORGANISM Zea mays

Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;
Spermatophyta; Magnoliophyta; Liliopsida; Poales; Poaceae; PACCAD
clade; Panicoideae; Andropogoneae; Zea.
1 (bases 1 to 70)
Genoplane.
Unpublished (2003)
Contact: Genoplane
Genoplane, a major partnership french program in plant genome
Unpublished (2003)
Contact: Genoplane

FEATURES

source

1..70
/organism="Zea mays"
/mol_type="mRNA"
/cultivar="mixture"
/db_xref="taxon:4577"
/clone_lib="GeneTag1"

ORIGIN

Query Match 59.1%; Score 13; DB 6; Length 70;
Best Local Similarity 76.2%; Pred. No. 6.5e+04;
Matches 16; Conservative 0; Mismatches 5; Indels 0; Gaps 0;

QY 2 GACTGTGAACGTTCCGAGATGA 22
|||||
32 GACTGTGAACGTTCCGAGAGA 52

RESULT 28 71 bp DNA linear GSS 14-NOV-2002
B2357971
LOCUS SALK_131667.32.45.x Arabidopsis thaliana TDM insertion line
DEFINITION Arabidopsis thaliana genomic clone SALK_131667.32.45.x, genomic
survey sequence.
ACCESSION B2357971
VERSION B2357971.1 GI:24950079
KEYWORDS GSS.
SOURCE Arabidopsis thaliana (thale cress)
ORGANISM Arabidopsis thaliana

Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;
Spermatophyta; Magnoliophyta; eudicotyledons; core eudicots;
rosids; eurosids II; Brassicales; Brassicaceae; Arabidopsis.
1 (bases 1 to 71)
Alonso, J.M., Leisse, T.J., Barajas, P., Chen, H., Cheuk, R.,
Gadgil, C., Jeske, A., Karnes, M., Kim, C.J., Parker, H., Prednis, L.,
Shim, P., Zimmerman, J. and Ecker, J.R.
A sequence-indexed library of insertion Mutations in the
Arabidopsis Genome
Unpublished (2001)

JOURNAL

COMMENT

Contact: Joseph R. Ecker
Salk Institute Genomic Analysis Laboratory (Signal)
The Salk Institute for Biological Studies
10010 N. Torrey Pines Road, La Jolla, CA 92037, USA
Tel: 858 453 4100 x1752
Fax: 858 558 6379
Email: ecker@salk.edu

Oy	1	TGACGTGAACGTTGCAGATG	21
Db	55	TGAATGTCAATTTCGACAAG	35
RESULT 31			
Bf647619/c		79 bp	mRNA linear EST 20-DEC-2000
LOCUS			
DEFINITION	NF012E12EC1F1097 Elicited cell culture Medicago truncatula cDNA		
ACCESSION	BF647619		
VERSION	BF647619.1	GI:11912761	
KEYWORDS	EST.		
SOURCE	Medicago truncatula (barrel medic)		
ORGANISM	Medicago truncatula		
REFERENCE	1 (bases 1 to 79)		
AUTHORS	Torres-Jerez,I., Scott,A.D., Harris,A.R., Gonzales,R.A., Bell,C.J., Flores,H.R., Imman,J.T., Weller,J.W. and May,G.D.		
TITLE	Expressed Sequence Tags from the Samuel Roberts Noble Foundation - Center for Medicago Genomics Research		
JOURNAL	Unpublished (2000)		
COMMENT	Contact: Dixon RA Plant Biology Division The Samuel Roberts Noble Foundation 2510 Sam Noble Parkway, Ardmore, OK 73402, USA Tel.: 580 221 7302 Fax: 580 221 7380 Email: radixon@noble.org Insert Length: 79 Std Error: 0.00 Plate: 012 row: E column: 12 Seq primer: TCACACAGAAACACTCTTGAC. Location/Qualifiers		
FEATURES			
source	1..79		
	/organism="Medicago truncatula"		
	/mol_type="mRNA"		
	/db_xref="taxon:3880"		
	/clone="NF012E12EC"		
	/tissue_type="Cell cultures derived from root tissues"		
	/dev_stage="Cell suspensions were subcultured every 14 days. Cells were induced six days after subculture"		
	/clone_id="Elicited cell culture"		
	/note="Vector: Lambda Zap; Cells were induced with yeast cell wall extracts equivalent to 50ug/ml glucose in the final concentration. Samples were taken at 0.5, 1, 12 and 24 hours after induction. Equal amounts of RNA from each time point were pooled and used for mRNA isolation."		
ORIGIN			
Query Match	59.1%	Score 13;	DB 2; Length 79;
Best Local Similarity	76.2%;	Pred. No. 6.7e+04;	
Matches	16; Conservative	0; Mismatches	5; Indels
			0; Gaps
			0;
Oy	2	GACTGTGAACGTTGCAGATGA	22
Db	62	GAGTTTGAAGGTTCTTAGATTA	42
RESULT 32			
B1529631/c		83 bp	mRNA linear EST 29-AUG-2001
LOCUS			
DEFINITION	1024100D03.xl C. reinhardtii CC-1690, normalized, lambda zap II		
ACCESSION	B1529631		
VERSION	B1529631.1	GI:15370205	
KEYWORDS	EST.		
SOURCE	Chlamydomonas reinhardtii		
ORGANISM	Chlamydomonas reinhardtii		
	Eukaryota; Viridiplantae; Chlorophyta; Chlorophyceae; Volvocales;		

REFERENCE	Chlamydomonadaceae; Chlamydomonas.					
AUTHORS	1 (bases 1 to 83)					
TITLE	Grossman,A., Chang,C.-W., Davies,J., Harris,E., Hauser,C., Lefebvre,P., McErmoctt,J.P., Shrager,J., Sillow,C. and Stern,D. Analyses of the Chlamydomonas reinhardtii Genome: A Model, Unicellular System for Analyzing Gene Function and Regulation in Vascular Plants. Project: 1024b					
JOURNAL COMMENT	Unpublished (2001) Contact: Charles Hauser DCMB Box 91000 Duke University Durham, NC 27708-1000 Tel: 919 613 8159 Fax: 919 613 8177 Email: chausere@duke.edu					
FEATURES	Location/Qualifiers					
SOURCE	1..83 /organism="Chlamydomonas reinhardtii" /mol_type="mRNA" /strain="CC-1690 wild type mc+ 2igr" /db_xref="taxon:3055" /clone_lib="C. reinhardtii CC-1690, normalized, lambda Zap II" /note="Vector: Bluescript II SK-; Site 1: EcoRI; Site 2: XhoI; This library, constructed by John Davies and Jeffrey McErmoctt, combines cDNAs from CC-1690 cells grown to mid-log phase in TAP (acetate-containing) medium in the light, TAP medium in the dark, HS (minimal) medium in ambient levels of CO2 and HS medium bubbled with 5% CO2. PolyA mRNA was purified from each sample, pooled and cDNA synthesized. The cDNA was directionally cloned into lambda Zap II (Stratagene) in the EcoRI (5') and XhoI (3') sites. Bluescript II SK- plasmids were excised from the lambda Zap clones by superinfection with Exsist (Stratagene) phage. The library was normalized using method 4 described in Bonaldo et al (1996) Genome Research 6: 791-806."					
ORIGIN						
Query Match	59.1%;	Score 13;	DB 4;	Length 83;		
Best Local Similarity	76.2%;	Pred. No. 6;	7e+04;			
Matches 16;	Conservative 0;	Mismatches 5;	Indels 0;	Gaps 0;		
CY	2	GACGTGACGTCGCAGATGA	22			
Db	81	GTCTTGACCCTCATATGA	61			
RESULT 33						
LOCUS	BIS29632	83 bp	mRNA	linear	EST_29-AUG-2001	
DEFINITION	1024100D03.y1 C. reinhardtii CC-1690, normalized, lambda zap II					
ACCESSION	Chlamydomonas reinhardtii cDNA, mRNA sequence.					
VERSION	BIS29632					
KEYWORDS	BIS29632.1 GI:15370206					
SOURCE	EST.					
ORGANISM	Chlamydomonas reinhardtii					
REFERENCE	Chlamydomonas reinhardtii					
AUTHORS	Eukaryota; Viridiplantae; Chlorophyta; Chlorophyceae; Volvocales;					
TITLE	Chlamydomonadaceae; Chlamydomonas.					
JOURNAL COMMENT	1 (bases 1 to 83)					
COMMENT	Grossman,A., Chang,C.-W., Davies,J., Harris,E., Hauser,C., Lefebvre,P., McErmoctt,J.P., Shrager,J., Sillow,C. and Stern,D. Analyses of the Chlamydomonas reinhardtii Genome: A Model, Unicellular System for Analyzing Gene Function and Regulation in Vascular Plants. Project: 1024b					
	Unpublished (2001)					
	Contact: Charles Hauser					
	DCMB Box 91000					
	Duke University					
	Durham, NC 27708-1000					
	Tel: 919 613 8159					
	Fax: 919 613 8177					
	Email: chausere@duke.edu.					

RESULT 39
 LOCUS BQ587598 51 bp mRNA linear EST 06-DEC-2002
 DEFINITION E01343-024-010-D02-SP6 MP1Z-ADIS-024-leaf Beta vulgaris cDNA clone
 ACCESSION BQ587598
 VERSION BQ587598.1 GI:26117180
 KEYWORDS EST.
 SOURCE Beta vulgaris
 ORGANISM Beta vulgaris
 Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;
 Spermatophyta; Magnoliophyta; eudicotyledons; core eudicots;
 Caryophyllales; Amaranthaceae; Beta.
 REFERENCE 1 (bases 1 to 51)
 AUTHORS Herwig,R., Schulz,B., Weishaar,B., Hennig,S., Steinfach,M.,
 Drungowski,M., Strihl,D., Wruck,W., Menze,A., O'Brien,J., Lehnach,H.
 and Radelof,U.
 TITLE Construction of a 'unigene' cDNA clone set by oligonucleotide
 fingerprinting allows access to 25 000 potential sugar beet genes
 JOURNAL Plant J. 32 (5), 845-857 (2002)
 MEDLINE 22362189
 PUBMED 12472698
 COMMENT Contact: Weishaar B
 ADIS DNA core facility at MP1Z
 Max-Planck-Institute for Plant Breeding Research
 Carl-von-Linne Weg 10, 50829 Koeln, Germany
 Fax: 00492215062851
 Email: weishaar@mpiz-koeln.mpg.de
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 /note="Vector: PCWSPORT6; Site 1: SalI; Site 2: NotI;
 cDNA library from sugar beet library provided by KWS
 Kleimanleberer Saatgut AG Einbeck, Germany, contact:
 b.schulz@kws.de; Cloning sites SalI-NotI, primer sites and
 orientation:
 SP6-Sali-CCACGCGTCCG-5prime-cDNA-polyA-CC-NotI-T7; Note:
 Sequencing granted in the context of the GABI-Beet
 project, local PI: Dr. Katharina Schneider, coordinator:
 Prof. Christian Jung; Sequence submission managed by
 R2PD/GABI-Primary database:http://gabi.rzpd.de"

ORIGIN
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 Best Local Similarity 87.5%; Pred. No. 7.9e+04;
 Matches 14; Conservative 0; Mismatches 2; Indels 0; Gaps 0;

QY 6 GTGAACGTTGAGATG 21
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 Db 21 GTGAACCTTTGAGATG 36

RESULT 40
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 DEFINITION Arabidopsis thaliana T-DNA flanking sequence GK-262C07-014951,
 genomic survey sequence.
 ACCESSION AL941969
 VERSION AL941969.1 GI:24398567
 KEYWORDS GSS.
 SOURCE Arabidopsis thaliana (thale cress)

ORGANISM Arabidopsis thaliana
 Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;
 Spermatophyta; Magnoliophyta; eudicotyledons; core eudicots;
 rosids; eurosids II; Brassicales; Brassicaceae; Arabidopsis.
 REFERENCE 1
 AUTHORS Li,Y., Rosso,M.G., Strizhov,N., Viehoveer,P. and Weishaar,B.
 TITLE GABI-Kat SimpleSearch: a flanking sequence tag (FST) database for
 the identification of T-DNA insertion mutants in Arabidopsis
 thaliana
 JOURNAL Bioinformatics 19 (11), 1441-1442 (2003)
 MEDLINE 22755829
 PUBMED 12874060
 REFERENCE 2
 AUTHORS Rosso,M.G., Li,Y., Strizhov,N., Reiss,B., Dekker,K. and
 Weishaar,B.
 TITLE An Arabidopsis thaliana T-DNA mutagenized population (GABI-Kat) for
 flanking sequence tag-based reverse genetics
 JOURNAL Plant Mol. Biol. 53 (1-2), 247-259 (2003)
 MEDLINE 23117147
 PUBMED 14756321
 REFERENCE 3
 AUTHORS Strizhov,N., Li,Y., Rosso,M.G., Viehoveer,P., Dekker,K.A. and
 Weishaar,B.
 TITLE High-throughput generation of sequence indexes from T-DNA
 mutagenized Arabidopsis thaliana lines
 JOURNAL Biotechniques 35 (6), 1164-1168 (2003)
 PUBMED 14682050
 REFERENCE 4 (bases 1 to 79)
 AUTHORS Li,Y., Rosso,M.G., Strizhov,N. and Weishaar,B.
 TITLE Direct Submission
 COMMENT Submitted (31-MAR-2004) Weishaar B., Max-Planck-Institut fuer
 Zuechtungsforchung, Carl-von-Linne-Weg 10, Koeln, 50829, Germany
 This sequence has been recovered from the left border of the T-DNA.
 It indicates an insertion within the locus defined by BAC clone
 M412. Details on the protocols used for generation of the sequence
 are described in References 1-3. The sequences are generated at the
 MPI for Plant Breeding Research in the context of the GABI-Kat
 project. GABI-Kat is part of the German Plant Genomics program
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 to determine the genomic sequence flanking the insertion.
 T-DNA derived sequences were removed."

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QY 7 TGAACGTTGAGATGA 22
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 Db 26 TGAATGATGAGATGA 41

Search completed: October 30, 2004, 19:26:17
 Job time : 1564 secs

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GenCore version 5.1.6
Copyright (c) 1993 - 2005 CompuGen Ltd.

OM nucleic - nucleic search, using sw model

Run on: March 28, 2005, 21:51:07 ; Search time 1448 Seconds
(without alignments)
736.198 Million cell updates/sec

Title: US-09-802-376-1

Perfect score: 22
Sequence: 1 Tgactgtgaactgcgagatga 22

Scoring table: IDENTITY_NUC
Gapop 10.0 , Gapept 1.0

Searched: 4708233 seqs, 24227607955 residues

Total number of hits satisfying chosen parameters: 9416466

Minimum DB seq length: 0

Maximum DB seq length: 200000000

Post-processing: Minimum Match 0%

Listing first 45 summaries

Database :

GenBml: *
1: gb_ba: *
2: gb_htg: *
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4: gb_om: *
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6: gb_pat: *
7: gb_ph: *
8: gb_pl: *
9: gb_pr: *
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11: gb_ste: *
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13: gb_un: *
14: gb_vi: *

Pred. No. is the number of results predicted by chance to have a
score greater than or equal to the score of the result being printed,
and is derived by analysis of the total score distribution.

SUMMARIES

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1	22	100.0	22	6	BD182369 Anti-tumo
2	22	100.0	22	6	BD185615 Anti-tumo
3	22	100.0	22	6	BD190435 Microsmul
4	22	100.0	22	6	BD228690 Methods a
5	22	100.0	22	6	BD233617 Immunosti
6	22	100.0	22	6	BD251283 Enhanceme
7	22	100.0	22	6	BD272057 Use of st
8	22	100.0	22	6	AR268334 Sequence
9	22	100.0	22	6	AR287741 Sequence
10	22	100.0	22	6	AR287743 Sequence
11	22	100.0	22	6	AR308057 Sequence
12	22	100.0	22	6	AR352573 Sequence
13	22	100.0	22	6	AR383158 Sequence
14	22	100.0	22	6	AR392162 Sequence
15	22	100.0	22	6	AR535277 Sequence
16	22	100.0	22	6	AX036945 Sequence
17	22	100.0	22	6	AX046993 Sequence
18	22	100.0	22	6	AX083675 Sequence
19	22	100.0	22	6	AX135650 Sequence

20	22	100.0	22	6	AX148636 Sequence
21	22	100.0	22	6	AX250701 Sequence
22	22	100.0	22	6	AX252291 Sequence
23	22	100.0	22	6	AX252509 Sequence
24	22	100.0	22	6	AX252520 Sequence
25	22	100.0	22	6	AX252534 Sequence
26	22	100.0	22	6	AX253113 Sequence
27	22	100.0	22	6	AX253123 Sequence
28	22	100.0	22	6	AX468499 Sequence
29	22	100.0	22	6	AX592312 Sequence
30	22	100.0	22	6	AX592350 Sequence
31	22	100.0	22	6	AX592369 Sequence
32	22	100.0	22	6	AX720306 Sequence
33	22	100.0	22	6	BD009235 Immunosti
34	22	100.0	22	6	AX250707 Sequence
35	22	95.5	22	6	BD233630 Immunosti
36	22	95.5	22	6	AR352586 Sequence
37	22	95.5	22	6	AX083681 Sequence
38	22	95.5	22	6	AX148642 Sequence
39	22	95.5	22	6	AX252297 Sequence
40	22	95.5	22	6	AX252515 Sequence
41	22	95.5	22	6	AX252526 Sequence
42	22	95.5	22	6	AX252940 Sequence
43	22	95.5	22	6	AX253119 Sequence
44	22	95.5	22	6	AX253129 Sequence
45	22	95.5	22	6	AX592341 Sequence

ALIGNMENTS

RESULT 1
LOCUS BD182369 22 bp DNA linear PAT 15-MAY-2003
DEFINITION Anti-tumor antigens or their epitopes against HTLV-1 tumor.
ACCESSION BD182369
VERSION BD182369.1 GI:30793287
KEYWORDS WO 02090981-A/1.
SOURCE synthetic construct
ORGANISM Other sequences; artificial sequences.
REFERENCE 1 (bases 1 to 22)
AUTHORS Hanabuchi, S., Ohashi, T. and Kannagi, M.
TITLE Anti-tumor antigens or their epitopes against HTLV-1 tumor
JOURNAL Patent: WO 02090981-A 1 14-NOV-2002;
JAPAN SCIENCE AND TECHNOLOGY CORP, SHINO HANABUCHI, TAKASHI OHASHI,
MARI KANNAGI

COMMENT

OS Artificial Sequence
PN WO 02090981-A/1
PD 14-NOV-2002 WO 2002JP004406
PP 02-MAY-2002 WO 2002JP004406
PR 08-MAY-2001 JP OIP 137526
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source
Location/Qualifiers
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DEFINITION Anti-tumor antigens or their epitopes against HTLV-I tumor.
ACCESSION BD185615
VERSION BD185615.1 GI:31877815
KEYWORDS JP 2002372532-A/1.
SOURCE synthetic construct
ORGANISM other sequences; artificial sequences.
REFERENCE 1 (bases 1 to 22)
AUTHORS Hanabuchi,S., Ohashi,T. and Kannagi,M.
TITLE Anti-tumor antigens or their epitopes against HTLV-I tumor
JOURNAL Patent: JP 2002372532-A 1 26-DEC-2002;
OS JAPAN SCIENCE AND TECHNOLOGY CORP
COMMENT OS Artificial Sequence
PN JP 2002372532-A/1
PD 26-DEC-2002
PR 08-MAY-2001 JP 200137526
PT SHINO HANABUCHI,TAKASHI OHASHI,MARI KANNAGI
PC G01N33/50,A61K39/00,A61P35/00,A61P35/02,A61P37/04,
PC C07K7/06,
PC C12N5/06,C12Q1/02,G01N33/00,G01N33/15,G01N33/53,G01N33/53, PC
G01N33/566
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Db 1 TGACTGTGAACGTTCCGAGATGA 22

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BD190435
LOCUS
DEFINITION Microemulsions with Adsorbed Macromolecules and Microparticles.
ACCESSION BD190435
VERSION BD190435.1 GI:33000174
KEYWORDS JP 2002537102-A/19.
SOURCE synthetic construct
ORGANISM other sequences; artificial sequences.
REFERENCE 1 (bases 1 to 22)
AUTHORS Barackman,J., Simph,M., Ugozoli,M., Kazazu,J., Donnelly,J.,
TITLE Oct,G.S. and Ohagan,D.
JOURNAL Microemulsions with Adsorbed Macromolecules and Microparticles
Patent: JP 2002537102-A 19 05-NOV-2002;
OS Chiron Corporation
COMMENT OS Artificial Sequence
PN JP 2002537102-A/19
PD 05-NOV-2002
PR 09-FEB-2000 JP 2000600618
PR 29-JUL-1999 US 60/146391,28-OCT-1999 US 60/161997, PR
26-FEB-1999 US 60/121858
PT John Barackman,manmohan simph,mildred ugozoli,jina kazazu,john
PI donnelly,
PI gary s oct,derek ohagan
CC Oligonucleotide

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LOCUS
DEFINITION Methods and adjuvants for stimulating mucosal immunity.
ACCESSION BD228690
VERSION BD228690.1 GI:33038460
KEYWORDS JP 2002526425-A/19.
SOURCE synthetic construct
ORGANISM other sequences; artificial sequences.
REFERENCE 1 (bases 1 to 22)
AUTHORS Raz,B., Horner,A.A. and Carson,D.A.
TITLE Methods and adjuvants for stimulating mucosal immunity
JOURNAL Patent: JP 2002526425-A 19 20-AUG-2002;
OS THE REGENTS OF THE UNIVERSITY OF CALIFORNIA
COMMENT OS Artificial Sequence
PN JP 2002526425-A/19
PD 20-AUG-2002
PR 15-SEP-1999 JP 2000573397
PR 05-OCT-1998 US 09/167039
PT EYAL RAZ,ANTHONY A HORNER,DENNIS A CARSON
PC A61K39/39,A61K31/7088,A61K31/7105,A61K31/711,A61P11/00 PC
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RESULT 5
BD233617
LOCUS
DEFINITION Immunostimulatory oligonucleotides, compositions thereof and
ACCESSION BD233617
VERSION BD233617.1 GI:33043387
KEYWORDS JP 2002517156-A/2.
SOURCE unidentified
ORGANISM unidentified
unclassified.


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REFERENCE 1 (bases 1 to 22)
AUTHORS Schwartz,D., Roman,M., Dina,D. and Raz,E.
TITLE Immunostimulatory oligonucleotides, compositions thereof and
JOURNAL Patent: JP 2002517156-A 2 11-JUN-2002;
COMMENT DYNAAVAX TECHNOLOGIES CORP
OS Unidentified
PN JP 2002517156-A/2
PD 11-JUN-2002
PR 05-JUN-1998 JP 199502884
PI 06-JUN-1997 US 60/048793
PC DAVID SCHWARTZ, MARK ROMAN, DINO DINA, EYAL RAZ
C12N15/09,A61K31/7088,A61K31/7115,A61P37/02,A61P43/00,C12Q1/68, PC
C12N15/00
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CC Topology: Linear;
CC Immunostimulatory oligonucleotides, compositions thereof and
CC use thereof methods of
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BD251283 22 bp DNA linear PAT 17-JUN-2003
LOCUS Enhancement of Neisseria antigen bactericidal activity using CG
DEFINITION motif-containing oligonucleotide.
ACCESSION BD251283 GI:33061053
VERSION JP 2002537353-A/19.
KEYWORDS synthetic construct
SOURCE synthetic construct
ORGANISM other sequences: artificial sequences.
REFERENCE 1 (bases 1 to 22)
AUTHORS Grandi,G., Rappuoli,R., Giuliani,M.M. and Pizze,M.
TITLE Enhancement of Neisseria antigen bactericidal activity using CG
JOURNAL Patent: JP 2002537353-A 19 05-NOV-2002;
COMMENT CHIRON SPA
OS Artificial Sequence
PN JP 2002537353-A/19
PD 05-NOV-2002
PR 09-FEB-2000 JP 2006000685
PI 26-FEB-1999 US 60/121792
PC GUIDO GRANDI, RINO RAPPUOLI, MARZIA MONICA GIULIANI, MARIAGRAZIA
PI PIZZA
PC A61K39/095,A61K31/7088,A61K39/39,A61P31/04//C07K14/22,C12N15/
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RESULT 8
AR268334 22 bp DNA linear PAT 10-APR-2003
LOCUS Sequence 19 from patent US 6498148.
DEFINITION AR268334
ACCESSION AR268334 GI:29698684
VERSION AR268334.1
KEYWORDS
SOURCE Unknown.
ORGANISM Unknown.
REFERENCE 1 (bases 1 to 22)
AUTHORS Raz,E.
TITLE Immunization-free methods for treating antigen-stimulated
JOURNAL inflammation in a mammalian host and shifting the host's antigen
Patent: US 6498148-A 19 24-DEC-2002;
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source Location/Qualifiers
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BD272057 22 bp DNA linear PAT 17-JUN-2003
LOCUS Use of stabilized oligonucleotide for producing agents having
DEFINITION antitumor activity.
ACCESSION BD272057
VERSION BD272057.1 GI:33081825
KEYWORDS JP 2002539265-A/2.
SOURCE synthetic construct
ORGANISM synthetic construct
REFERENCE 1 (bases 1 to 22)
AUTHORS Carpentier,A.
TITLE Use of stabilized oligonucleotide for producing agents having
JOURNAL antitumor activity
Patent: JP 2002539265-A 2 19-NOV-2002;
COMMENT ASSISTANCE PUBLIQUE HOPITAUX DE PARIS, INSTITUT NATIONAL DE LA
SANTÉ ET DE LA RECHERCHE MÉDICALE (INSERM)
OS Artificial Sequence
PN JP 2002539265-A/2
PD 19-NOV-2002 JP 200606246
PR 17-MAR-2000 JP 200606246
PI 19-MAR-1999 FR 99/03433
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ORGANISM Unknown.
REFERENCE 1 (bases 1 to 22)
AUTHORS Raz,E.
TITLE Immunization-free methods for treating antigen-stimulated
JOURNAL inflammation in a mammalian host and shifting the host's antigen
Patent: US 6498148-A 19 24-DEC-2002;
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ACCESSION AR287741
VERSION AR287741.1 GI:31674761
KEYWORDS
SOURCE
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REFERENCE
1 (bases 1 to 22)
Raz,E., Cho,H.J., Richman,D. and Horner,A.A.
METHODS Methods for increasing a cytotoxic T lymphocyte response in vivo
JOURNAL Patent: US 6534062-A 1 18-MAR-2003;
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Raz,E., Cho,H.J., Richman,D. and Horner,A.A.
METHODS Methods for increasing a cytotoxic T lymphocyte response in vivo
JOURNAL Patent: US 6534062-A 1 18-MAR-2003;
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Matches 22; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

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LOCUS AR287743
DEFINITION Sequence 3 from patent US 6534062.
ACCESSION AR287743
VERSION AR287743.1 GI:31674763
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REFERENCE
1 (bases 1 to 22)
Raz,E., Cho,H.J., Richman,D. and Horner,A.A.
METHODS Methods for increasing a cytotoxic T lymphocyte response in vivo
JOURNAL Patent: US 6534062-A 3 18-MAR-2003;
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RESULT 11
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LOCUS AR308057
DEFINITION Sequence 1 from patent US 6552006.
ACCESSION AR308057
VERSION AR308057.1 GI:31698950
KEYWORDS
SOURCE
ORGANISM
REFERENCE
1 (bases 1 to 22)
Raz,E., Kornbluth,R., Catanzaro,A., Hayaishi,T. and Carson,D.
METHODS Immunomodulatory polynucleotides in treatment of an infection by an intracellular pathogen
JOURNAL Patent: US 6552006-A 1 22-APR-2003;
FEATURES Location/Qualifiers
source 1..22
/organism="unknown"
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AR352573 22 bp DNA linear PAT 17-AUG-2003
LOCUS AR352573
DEFINITION Sequence 2 from patent US 6589940.
ACCESSION AR352573
VERSION AR352573.1 GI:33757824
KEYWORDS
SOURCE
ORGANISM
REFERENCE
1 (bases 1 to 22)
Raz,E., Roman,M. and Dina,D.
METHODS Immunostimulatory oligonucleotides, compositions thereof and methods of use thereof
JOURNAL Patent: US 6589940-A 2 08-JUL-2003;
FEATURES Location/Qualifiers
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AR383158 22 bp DNA linear PAT 18-DEC-2003
LOCUS AR383158
DEFINITION Sequence 1 from patent US 6610661.
ACCESSION AR383158
VERSION AR383158.1 GI:40092605
KEYWORDS
SOURCE
ORGANISM
REFERENCE
1 (bases 1 to 22)
Carson,D.A., Raz,E. and Roman,M.
METHODS Immunostimulatory polynucleotide/immunomodulatory molecule

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1 TGAAGTGAACGTTTCGAGATGA 22

Db

JOURNAL conjugates
Patent: US 6610661-A 1 26-AUG-2003;
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AR392162 22 bp DNA linear PAT 18-DEC-2003

LOCUS AR392162
DEFINITION Sequence 1 from patent US 6613751.
ACCESSION AR392162
VERSION AR392162.1 GI:40116139

KEYWORDS
SOURCE

ORGANISM

Unknown.
Unclassified.

REFERENCE 1 (bases 1 to 22)
Raz,E. and Rachmitlewitz,D.
Method for treating inflammatory bowel disease and other forms of
gastrointestinal inflammation
Patent: US 6613751-A 1 02-SEP-2003;

JOURNAL Location/Qualifiers
FEATURES 1..22
source /organism="unknown"
/mol_type="genomic DNA"

ORIGIN

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AR535277 22 bp DNA linear PAT 08-OCT-2004

LOCUS AR535277
DEFINITION Sequence 2 from patent US 6737066.
ACCESSION AR535277
VERSION AR535277.1 GI:53926303

KEYWORDS
SOURCE

ORGANISM Unknown.
Unclassified.

REFERENCE 1 (bases 1 to 22)
Moses,R.B.
HIV immunogenic compositions and methods
Patent: US 6737066-A 2 18-MAY-2004;
JOURNAL Location/Qualifiers
FEATURES 1..22
source /organism="unknown"
/mol_type="genomic DNA"

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Query Match 100.0%; Score 22; DB 6; Length 22;
Best Local Similarity 100.0%; Pred. No. 0.47;
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